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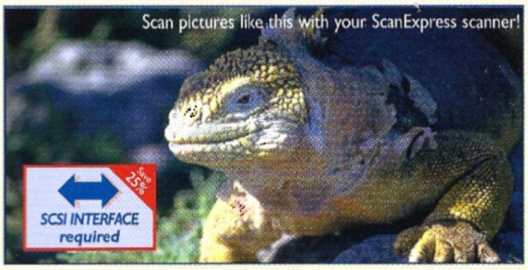

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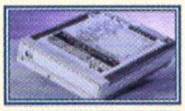
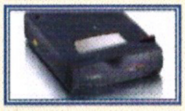
Jaz



Nomai



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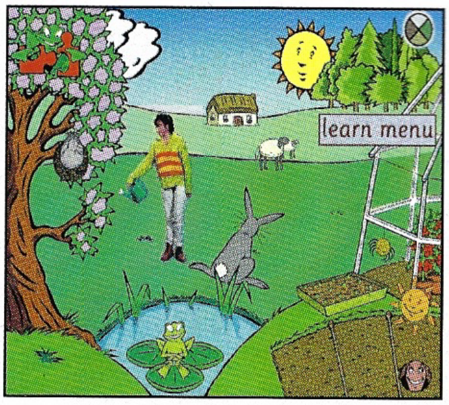

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Next month in **Acorn User**

We take our first look at a selection of high quality printers. Web creation tools are put to the test and we'll be reviewing *HyperStudio*. There'll also be all the news from the Wakefield show...so don't miss it!

Next issue on sale 11 June 1998

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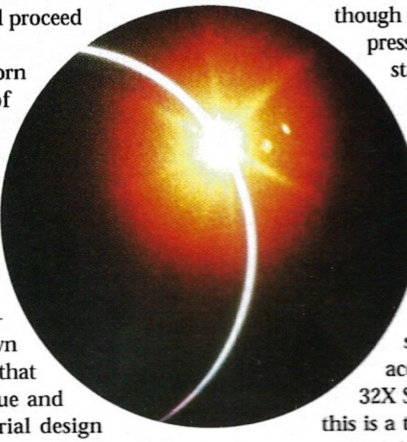
Get to know Phoebe

As revealed last month, Risc PC II – code-named Phoebe – will be at the Wakefield show, but it will be exclusively previewed to Acorn Clan members, who will also be able to reserve a machine for early delivery. A full public launch will take place close to September, when Acorn expect to see first shipments to customers. Meanwhile, if you're not yet signed up to the Clan but you'd like to see Acorn's new baby at Wakefield, you can join at the show and proceed straight to the Risc PC II preview exhibit.



As part of the build up to the show, the Acorn Press have been given their own preview of Phoebe and we can now bring firm details of the new machine's specification. First of all, at the time of writing, Acorn had not yet chosen a name for the new computer. Unless an acceptable alternative can't be found in time, it's unlikely that 'Risc PC' will figure in the name.

Despite the rather anonymous-looking development machine boxes which have been shown to the public in the past, we can happily report that the final production machine will have unique and striking styling, courtesy of the same industrial design company which styled the Iomega Zip drive. Rather than spoil the experience of seeing the new machine for the first time, we'll just say that the colour chosen for the case front panel is very bold! It'll certainly stand out in a crowd!

So what's under the skin? There are lots of informed guesses flying around, but here is the definitive basic specification: Initial models will have the same 233MHz StrongARM as currently shipped with Risc PCs. The CPU sits on a tiny daughter card which is designed to be replaced by either a faster single CPU or a multiple CPU card.

For the latter, hardware support for inter-CPU messaging is built-in to the new IOMD2 memory management controller, however, the latest version of RISC OS (version 4.0) will not yet support multiple processors. The new machine can address up to 512 megabytes of system memory, but as standard 32 megabytes of SDRAM will occupy one of two DIMM (dual in-line memory modules) slots.

Compared to a PC, this appears rather modest, but as we know RISC OS requires a great deal less system memory than Windows. The memory bus speed is quadrupled from 16 megahertz to 64 (not 66) megahertz. SDRAM operates more efficiently than the obsolete DRAM type used in the current Risc PC, so memory related performance should be spectacular.

The only system memory permanently fixed to the board is four megabytes of VRAM, doubled from 2Mb, for the display sub-system. For software compatibility reasons, the familiar VIDC20 chip has been retained, but the chip's silicon has been reduced in size to enable it to be clocked at twice the speed of its predecessors. Acorn has yet to find a monitor which the new VIDC20+ can't drive to the limit.

Three familiar podule slots are provided for expansion cards and next to these are four 'industry standard' PCI slots. The inclusion of PC slots opens up the possibility of choosing cards from the huge range of devices on the market for PCs, however, new drivers will need to be developed before specific cards can be used under RISC OS.

The standard specification of PCI is implemented, which means a 32-bit bus operating at 33MHz. At least one third-party company has been entrusted to the work of developing a Pentium-based PC card for running Microsoft applications on the new machine. Instead of having its own dedicated processor slot next to the StrongARM, the PC card will live on the PCI bus. The PC card will be able to access the new machine's main system memory as the existing solution does, however we can expect the PC card to have its own on-board memory as well, according to Acorn.

There is no doubt that the new PC card arrangement will be substantially faster than the existing PC card, but the PCI bus will, ultimately, prevent the PC card from matching the performance of the current generation of fast Pentium PCs. There is no obvious reason why 3D PCI graphics cards for running PC games won't be able to be supported, but there is no slot for the latest AGP-type PC graphics card.

Elsewhere, off-the-shelf large EIDE hard discs can be used, though the standard drive size had not yet been finalised at press time. Ultra DMA is not supported and there is no standard virtual memory system. Two serial ports, a bi-directional parallel port and a PC joystick port are all standard, but you won't find any support for USB fast serial peripherals or IEEE1394 very fast multimedia transfers. These may be added as a PCI card in the future. There is no more on-board network port, but you will have the choice of a PCI card or a podule. The front of the case features an IrDA (infrared) wireless communications port. The headphone and microphone sockets are also sensibly at the front. Simple MIDI accompanies SoundBlaster compatible audio. A speedy 32X Sony CD-ROM drive is fitted as standard. Unusually, this is a tray-less drive – you slot the CD into the drive via a narrow aperture in the front of the case, much like in-car CD hi-fi.

We will have a much more in-depth look at the successor to the Risc PC next month.

RISC OS 4 provides substantial enhancements

The new Risc PC will be supplied with RISC OS 4.0. Lots of goodies come with the revision. These include a new kernel to support the new hardware, better task swapping and a screen cache for updating graphics in the background. A completely new filecore, which remains backwards compatible, introduces directories capable of supporting up to 80,000 files instead of just 77, long filenames and IDE partition sizes as large as 128Gb.

There is also a new CDFS which will more easily support the latest hardware available. The desktop will look subtly different, with revised icons and WIMP. The pinboard has been improved, there is a new filer, a much improved configure application to shield users from the complexities of !BOOT and the help system has been improved. To support the newly added MIDI facility there is a revised sound system and printer drivers have been re-engineered to support photo-realistic printers. Some of these improvements could theoretically be offered to owners of older machines, but no decision has been taken to do this yet as all efforts are being concentrated on the Phoebe project.

The Phoebe schedule and pricing

Several prototype Phoebe machines will be demonstrated at Wakefield to Clan members behind closed doors. There will also be a walk through exhibition showing how the Phoebe project was conceived and how it evolved, including an explanation of why the innovative modular Risc PC case proved unsuitable for the new machine.

We've only seen a mock-up of the dramatic new case, which was just a few days old, so we aren't sure if the demo machines will sport the new box. Inside, the motherboards will still be fitted with development hardware chips or FPGAs (field programmable gate arrays). These are used to prototype the final custom ASIC chips which should be ready in time for expected September shipments.

Apart from these points, engineers should be able to answer most questions about the new machines and demonstrate its capabilities. It's likely a £100 deposit will secure a machine from the initial production batch. The target price, subject to fluctuation in component prices, is £1499 + VAT without a monitor, but it's likely that a competitively priced iiyama 15 inch monitor will be offered as part of a package.

Acorn pursue new consultancy goals

As promised, we have had the opportunity of speaking to Andy Mee, Acorn's new vice president of marketing and business development. As part of the re-structuring of Acorn reported last month, Mee's job is to maximise Acorn's exposure as a high-tech consultancy, with special emphasis on the Pacific rim – the US West Coast, Japan and other Asian countries, like Korea and Taiwan.

One of the first signs of this was the appointment of the large international PR consultancy, Miller Shandwick, to get Acorn noticed in their target regions. The appointment of Miller Shandwick raised eyebrows in the PR community as the budget for the contract was reputed to be £300,000, a substantial amount for a company of Acorn's size.

Mee underlined the recent Acorn announcements of the adoption of the Citrix ICA protocol for running Windows applications on cheap NC-like devices and the re-focusing on to digital TV with its Active Series set-top box family. The technology owes much to the NC and original Online Media interactive set-top boxes, but addresses the more immediate opportunity of digital TV, which is already available in France and Germany and will launch this summer in the UK.

Mee also emphasises that Acorn must now compete to win research and consultancy business which is not necessarily ARM processor-based. This will remain the hub of activity for the foreseeable future, but other Acorn strengths, like their TV-quality display solutions, for example, need not be married to ARM and RISC OS-based products. He also says Acorn are not afraid of embracing other operating systems too, if required. Because of the late breaking Phoebe news this month, we're short on space to expand on what Mee and his colleagues in the new Acorn consultancy division are up to, but we will have a chance to see them in action at the Cable and Satellite show, which we will be reporting on next month.

News from PEP Associates

PEP Associates have now released version 2.55 of *CD-Net*, their solution for networked CD-ROM access. It is now fully StrongARM and Internet 5 compatible. The latest version fixes a problem caused by having more than 10 CD-ROM drives. The company are also finalising their own drop-in replacement for Acorn's CDFS Filer and they are hoping to release a free version of the product in a couple of months time, with add-ons which can be purchased.

These two products, plus *VirtuaCD* – for acquiring and accessing virtual CD images, can be downloaded from the PEP website at http://www.pep-assoc.co.uk/ in evaluation form. Later this year, PEP expect to release new versions of all three products for use with Risc PC II, and add new functionality for *CD-Net*.

CD-Net was originally handled by Cumana in its previous incarnation. PEP Associates, therefore, do not have records of existing owners. As a result they are inviting all owners to let them know how they could improve the product for them. They would also like to offer the new version of *CD-Net* at a discounted rate to any registered owners. All they need do is write to them quoting their registration number. There is also an on-line registration facility on the website. Contact PEP Associates Support at PO Box 62, Fordham, ELY, Cambs, CB7 5ZD.

Project peanut

It is rumoured that a third-party company is developing a new RISC OS portable. A prototype of the machine is expected to be on show on one of the stands at the Wakefield show.

Current indications suggest that the machine will be based around an ARM7500FE processor running RISC OS 3.71 with EDO RAM. This should result in it having a performance similar to that of a A7000+.

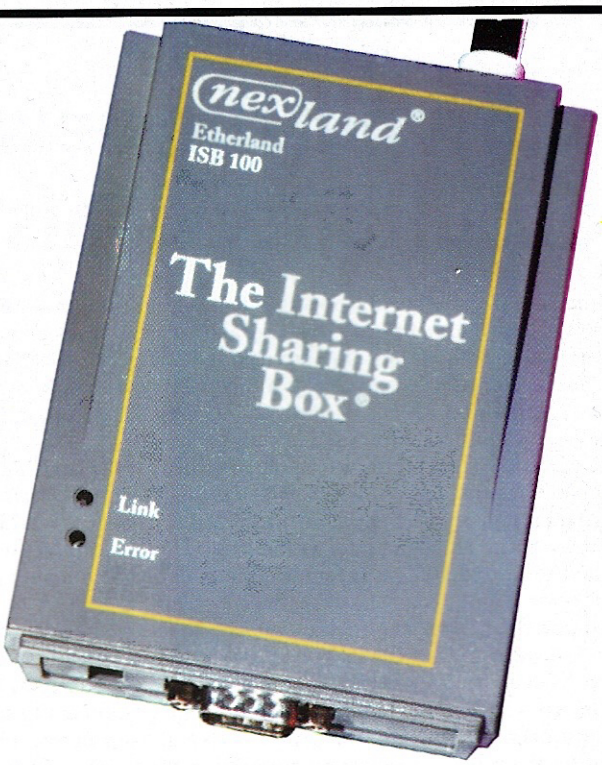
The machine will have a 12 inch TFT colour screen which should give 800x600 resolution in 256 colours. Other standard equipment includes a floppy drive, a hard drive and a CD-ROM drive.

One important note is that the machine runs from a battery so that it can be used, for example, on a train. This is in contrast to Acorn's 'Artisan' technology demonstrator which can only be powered from the mains.

The development is great news for the Acorn portable market which is currently almost non-existent – Xemplar are now responsible for the Pocket Book and news of Acorn's rumoured replacement for the A4 has gone very quiet in recent times. I hope this project is successful and if you want to know more you'll just have to make your way to the show.

Mark Taylor

Low cost Internet modem sharing solution



If you have a small network and you'd like to enable all the computers on that network to share a modem in order to access the Internet, a new solution from Dane-Elec could be the answer. Dane-Elec are distributing a simple but clever modem sharing box produced by the US firm, Nexland. It's platform independent so should work with Acorn Ethernet networks running the Internet Protocol (IP).

Aimed at small businesses looking to move beyond single unshared modems on their networks, Nexland's ISB100 Internet Sharing Box has its own network address and does not require a host machine. It supports both 10Base-2 (co-ax) Thin Ethernet networking, which is still prevalent in many small peer to peer networks and also the more up-to-date 10Base-T (UTP) standard. The box connects to the modem via a 230Kbps fast serial port and an analogue modem can be substituted by an ISDN terminal adapter if required.

This solution is very simple – users will appear to have their own modem via the network even though it is actually shared among several users. This means you can browse the Web, transfer files and check your e-mail. No support is provided for local mail servers – you would need a much more sophisticated and expensive solution to do that. However, any standard e-mail servers on the Internet can be accessed via the ISB100, so individuals can access their own Internet mailboxes if they already have them.

At the time of writing, some more advanced or unusual Internet functions were not possible using the ISB100. This is because the ISB100 uses NAT (Network Address Translation) and will only translate protocols it recognises. So you could have problems with some Internet telephony or other client/server services which aren't recognised by the Nexland box. Nexland say that they will be adding support for extra protocols in time and these can be soft-loaded to the ISB100's EEPROM in the future. Far from being a drawback, Nexland like to think of the NAT limitations as a handy, if crude, firewall, keeping the files on the shared drives on your network secure from hackers roaming the Internet.

The Nexland ISB100 is priced at £170 and is designed for computer novices to install. It has to be stressed that the ISB100 hasn't, to our knowledge, been tried on an Acorn network yet, but as we said – it should work in theory. Resellers can contact Dane-Elec 0181-391 6900, fax: 0181-391 4433, e-mail sales@dane.co.uk, WWW: http://www.dane-elec.com

NCS and CJE join forces

In a statement made recently via the Internet, Chris Evans of CJE Micros and Paul Beverley of Norwich Computer Services revealed that their two Acorn dealerships would be combining their respective talents: "We're pleased to announce that CJE Micros of Worthing, and Norwich Computer Services have joined forces to try to provide a better service to our customers. As from 9th April, Chris Evans of CJE Micros will be dealing with the Acorn sales side of things, while Paul Beverley will be concentrating on publishing the *Archive* magazine."

Paul Beverley continued: "For many years now, I have been split two ways, between running the dealership, and publishing *Archive*. This collaboration will allow me to concentrate on the magazine, leaving Chris to continue the high standard of service which NCS has tried to maintain over the last eight years." Chris Evans added "There is already a degree of overlap between the customers of CJE Micros and those of NCS and so this seems a natural way for us to develop. Our intention is to widen the range of products – hardware, software and consumables – and make CJE Micros the one-stop-shop for the Acorn market."

Acorn customer launches Internet STB

Boca Research, a US company who previously made their name by producing very competitively priced PC add-in cards, like modems, have announced that they have begun shipments of BocaVision, described as a set-top Internet access device which enables Internet access through the use of a monitor or television and an ordinary telephone line.

Acorn were closely involved in the engineering underneath the skin of BocaVision. The sub-$400 STB combines Acorn platform technology with the increasingly popular Citrix IPA protocol which enables users to run their Microsoft Windows and other applications via a central server. Similar so-called thin client devices are being tipped to dominate corporate networking in the future and Acorn have invested heavily in this area to provide low cost high performance solutions to compete in this growing marketplace.

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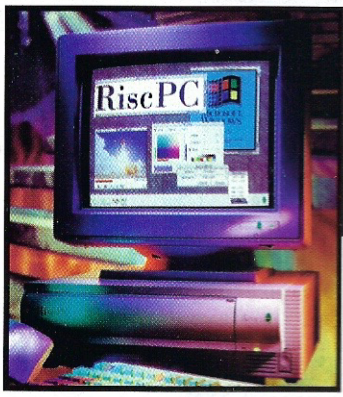
StrongARM 233MHz Risc PC



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This is the most flexible machine in Acorn's range and has a wide range of cost effective upgrades. Please phone for our full listing. All hardware upgrades are fitted free of charge. Have your Risc PC system tailor-made to meet your requirements. All systems are supplied with 1 year warranty, including 1 year free technical support. Trade-in discount available. Purchase a SRP25 or SRP26 and you qualify for a voucher to receive the following;
OmniClient II, Java, Director 4.0, Acorn HTML 3.2, Acorn Mail & News clients

Risc PC 4Mb HD1.2Gb [SRP20] £949.00
Risc PC 4Mb HD1.2Gb x8CD [SRP21] . . . £999.00
Risc PC 10Mb HD1.2Gb x8CD [SRP26] . .£1249.03

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SPEEDY DELIVERY

SHOWROOM

FINANCE OPTIONS

StrongARM Risc PC Upgrades

14" SVGA Colour	£189.00
VisionMaster 15"	£235.00
Acorn AKF60 14"	£265.00
VisionMaster 17"	£465.00
VisionMaster Pro 17"	£499.00
8Mb SIMM	£21.00
16Mb SIMM	£39.00
32Mb SIMM	£75.00
1Mb VRAM (expandable)	£70.00
2Mb VRAM	£105.00
CD Drive Sixteen Speed IDE	£99.00
CD Drive Twenty Four Speed IDE	£116.33
CD Drive Twelve Speed SCSI	£170.38
CD Drive Writable PD Drive	£346.00
StrongARM Upgrade 233MHz (for old style RPC's)	£292.58
SCSI I Interface	£116.33
SCSI II Interface	£175.00
PC DX4-100 Card with Risc PC (£351.33 without)	£233.83
PC 5x86 Card with Risc PC (£468.83 without)	£351.33
2 Slot Backplane (for 4Mb Risc PC)	£35.19
2nd Slice (inc. 4 slot Backplane)	£90.00
!PC Pro Upgrade (incl PC Exchange)	£49.00

If upgrading the original 1.2Gb hard drive, deduct £80 from the following prices;

1GB Drive IDE	£132.78
2GB Drive IDE	£164.50
2GB Drive SCSI	£323.13
4GB Drive SCSI	£787.25
Windows 95 OEM (CD)	£79.00
Windows Workgroups 3.11 OEM (CD)	£64.63

Full list of upgrades available

Acorn

Zip Drive Pack

iomega

Avoid disappointment by using a ZIP drive to quickly and easily back-up your data. Expand your hard drive with unlimited capacity by adding another 100Mb Zip disc.

ZIP Drive Packs

5210	ZIP Drive ext. parallel (inc. 100Mb disc)	125.00
5211	ZIP Driver software	29.30

Acorn A7000+

0% Finance Available

This is the first production Acorn computer with an integrated Floating Point Accelerator. The combination of a fast 7500FE processor and high-speed EDO DRAM give a dramatic improvement in desktop performance, but with no increase in price!

The A7000+ offers:

8Mb EDO RAM, 1.2Gb IDE hard drive, RISC OS 3.71, Floating Point Accelerator, Integrated 16-bit digital stereo sound, 1.6Mb floppy drive, VGA, SVGA, and other resolutions.

A7000+ 8Mb HD1.2Gb/AKF60 . . . . . £1063.38
A7000+ 8Mb HD1.2Gb 8xCD/AKF60 £1113.37

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BEEBUG

Third-generation asynchronous ARM due by year's end

Remember the Amulet? This is the project started eight years ago by a group of Manchester University researchers headed by Steve Furber, who was a co-designer of the original ARM processor at Acorn in the early '80s. The Amulet philosophy was to radically depart from the standard way of operating microprocessors, which execute synchronously one tick at a time, each tick triggered by a clock.

Furber's team wanted to build a processor which didn't require a clock any more; an asynchronous processor. The perceived benefits were lower power consumption, as only the parts of the processor circuitry required for a given operation would be active at any point in time. There was some optimism that as processor chips became inevitably larger and more complex, asynchronous architectures would remove physical design limits and so enable very high performance.

Another benefit would be lower radio frequency emissions. The theory became reality in 1993 when the first Amulet chip, which was ARM instruction set compatible, was fabricated for the university by VLSI technology. It delivered about 70 per cent of the performance of a comparable ARM 6 chip – not bad for a first effort. Three years later, the second generation Amulet was produced and this exceeded the performance of ARM 7 while retaining very low power consumption and radio noise emission levels.

Steve Furber has now revealed that Amulet 3 is well under way and should be fabricated before the end of this year. This time the accent is on improving performance and Furber hopes the new chip will deliver at least 100 MIPs (million instructions per second), some four times that of the original Amulet. That's not yet into StrongARM territory, but as fast as anything produced using ARM 8 or 9 synchronous technology, yet hopefully consuming considerably less power than the already frugal conventional ARMs. Unlike its predecessors, Amulet 3 will be designed for mass production.

Millennium prize for Sibelius Software

The Design Council have given Sibelius Software one of the first of a new 'Millennium' category of awards which promotes innovation in British design. News of the award came from Tony Blair, the Prime Minister. The Millennium Products scheme is designed to promote innovative British design and winning products will be endorsed with a special Millennium Products logo and exhibited in the Millennium Dome.

Just in case you are one of the tiny minority in the Acorn world who might not know what Sibelius Software produce – their product, simply called *Sibelius*, is a word processor for music notation. To non-musicians this may not sound too exciting but it has revolutionised music authoring, especially in the classical sector and has been an impressive generator of new Risc PC owners, most of whom eulogise their *Sibelius* software.

Sibelius now have an office in Hollywood, where composers have started to use the software to score music for blockbuster movies like *GI Jane*, starring Demi Moore. The latest version has a new facility which allows printed music to be scanned in for editing – rather like an optical character recognition package for ordinary wordprocessors. Contact Sibelius Software on tel: 01223 302765, fax: 01223 351947, e-mail: rhodson@sibelius-software.com

Acorn cash in on ARM flotation

As previewed last month, ARM Holdings PLC have made their planned public share offering. 11,730,000 shares were snapped up by eager investors on both sides of the Atlantic in mid-April. The share price was £5.75, valuing ARM Ltd at £264 million. But at the high point in trading the price reached a remarkable £10. It has since settled back to around £8.40, but this is still well ahead of expectations.

Acorn's managing director, David Lee, told *Acorn User* that he had expected the price to stabilise around 20 per cent higher than of the offer price, as was the norm for this kind of offer. The actual difference was more than double that at the time of writing, though the markets in general have been very buoyant anyway. Lee refuted suggestions that the offering had been underpriced. Acorn, as major shareholders in ARM Ltd, have benefited to the tune of £15 million from the share issue. More than £7 million of Acorn's windfall will be immediately used to clear borrowings. All of ARM's shareholders, including Acorn, Apple, VLSI Technology and Nippon Investment, have liquidated the same proportion of their holdings retaining about 80 per cent of their original shares.

David Lee also revealed that the decision to float a minority of ARM shares had been enshrined in a long-term plan for ARM Ltd right from the start.

The flotation was not a fund-raising exercise – in fact Lee says practically the minimum quantity of shares was given up by the shareholders because they were confident that the long-term value of their holdings would rise substantially. ARM are actually a cash-rich company without an obvious need for even more cash, but the flotation will give the company more independence and open the way for future strategies like acquisitions.

Revised CD labelling system from Avery

One of the fastest growing computer peripheral growth sectors is recordable CD. The drives are now around the £300 mark and people are suddenly finding they can afford the technology to make their own compilation CDs, master their own music on CD, back up their hard discs and much more on recordable CD – especially as blank write-once read-only CDs are now as cheap as £2-£3 a go.

Avery Dennison, the market leader in computer labels, saw the boom coming last year and launched a range of circular labels for recordable CDs. This year the company have decided to re-develop and re-launch their CD label range. A new sheet construction has been developed to counteract CD-wobble which is a danger with today's fastest drives of 24X and 32X spin speeds. The label adhesive is also guaranteed not to rot the CD. PC software for designing the labels is included too. Avery's freefone number for enquiries about CD labels is 0800 80 50 20.

Toshiba unveil StrongARM-based notebook

The world leader in portable PCs, Toshiba, have dipped a toe in the NC market by announcing a notebook-style portable NC. The Toshiba Confolio 300, which is built to run Java applications, looks much like any conventional notebook PC, though it is based on the Mobile Network Computer Reference Specification.

The notebook is a lightweight at 4.1lbs but has a 'cheap' 10.4 inch dual scan passive LCD screen. Inside is a 200MHz StrongARM and 16 megabytes of RAM, but no hard disc. The retail price of the Confolio 300 is about £1,000 – which is definitely low compared to notebook PCs. Wonder how difficult it would be it find a home for RISC OS inside one of these Confolios!

Videodesk update

Among the many new features of Irlam's *Videodesk* software for their excellent off-line video editing solution is polyphonic audio, VITC timecode handling, standard EDL output and Replay capture. The system, at under £1000, brings near-broadcast quality video editing within the reach of many enthusiasts and schools. The current offer of the RiscTV 'video in a window' hardware for just £100 more when buying *Videodesk* is a saving of over 60 per cent and armed with *Videodesk*, *RiscTV* and a decent camera you have all the facilities to produce very professional video with unparalleled ease and speed. An excellent system that is bound to improve given Irlam's history of continuous software and hardware development.

Jack Kreindler

New scanner from Pineapple

For just £149.00 inc VAT or £179.00 with TWAIN drivers and *Studio24Pro*, Pineapple will supply the new Plustek OpticPro 4831 A4 scanner. With an optical resolution of 300 x 600 dpi (4800 dpi interpolated) and 30-bit pixel depth, this scanner should be adequate for most home and office users and at the price represents very good value.

The main feature of this particular scanner is that it is a 'through parallel' device which means that it will plug straight into the back of the computer and another device using the same interface can be plugged into the scanner alleviating the need for switch boxes or cable swapping.

Jack Kreindler

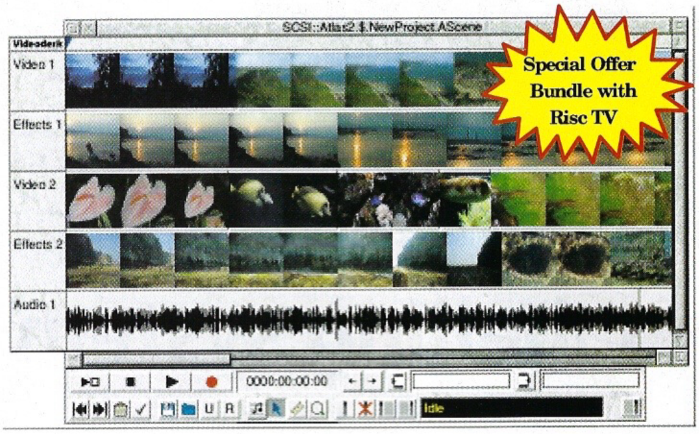
Videodesk

Non-Linear Video Editing System.

Videodesk is a significant advance in video editing for Acorn machines which allows full-size, full-colour and full-motion video to be compressed to disc in real-time. The compressed video is edited frame accurately and output back to video for recording or display. Unlike tape-based editing systems there is no generation loss and edits can be played back instantly.

Key Features:

- Composite and S-Video inputs and outputs.
- 50 fields per second capture and playback.
- 24 bit colour range.
- Resolution of up to 768 pixels x 576 lines.
- High-quality uncompressed still grabs.
- VITC Timecode input and output.
- 16 bit stereo audio inputs and outputs.
- Audio sampling at up to CD and DAT rates.
- Multiple audio tracks (polyphonic).
- High performance Replay movie capture.
- Multi-level undo and redo.
- Edit Decision List (EDL) generation.



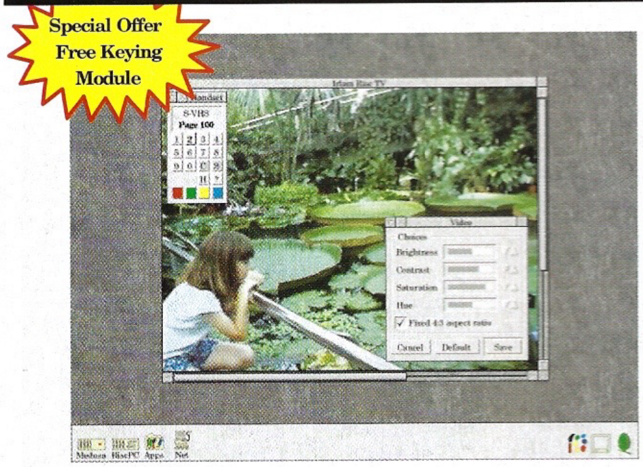
Special Offer Bundle with Risc TV

Videodesk is supplied complete with video editing software as standard, which is sophisticated, flexible and simple-to-use. Editing is done on a multi-track time-line with separate audio and video tracks. Effects are generated digitally and include over 100 dissolves, wipes, fades and slides. Software is being continually developed and comprehensive titling software is now available at no extra cost. Titles are generated using the outline font system and can scroll, flash, fade and be overlayed onto the video or appear on their own. Titling is done digitally and does not require a Genlock.

RiscTV is supported for on-screen monitoring up to full-screen size and there is a specially priced bundle when purchased together with **Videodesk**. **RiscTV** and **Videodesk** are both available now. See below for more information about **RiscTV**.

Risc TV Desktop Television System.

Special Offer Free Keying Module



Risc TV is a unique multimedia digitiser complete with built-in television tuner and audio processor. It allows you to watch television on the desktop and digitise high quality still images from the tuner or an external video source.

RiscTV has special hardware which is used to update the screen, so your computer runs at full speed and the real-time display is always true colour (24 bit) irrespective of screen mode. The display can also be scaled to any size or made full-screen.

- Suitable for A5000, A7000, and Risc PC.
- On-screen sizes of over 1024 x 768.
- Real-time scaling, filtering and control of contrast, brightness and saturation.
- Auxiliary inputs for Composite & S-Video.
- Low-cost Teletext option.
- Optional keying module allows **Risc TV**'s display to be obscured by other objects and still provide real-time overlay.
- Optional audio upgrade provides NICAM stereo audio, 16 bit sound sampling, audio mixing, plus Replay movie capture.

For the Complete Picture...

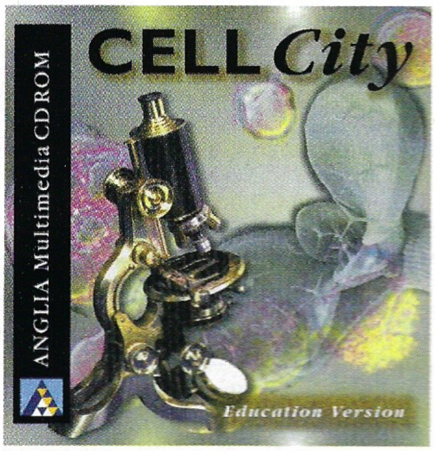
Irlam Instruments Ltd, Brunel Science Park, Brunel University, Kingston Lane,
Uxbridge, Middlesex, UB8 3PQ. Tel/Fax 01895 811401. Email: sales@irlam.co.uk
Website: www.irlam-instruments.co.uk

Please note: Videodesk requires a RISC PC, large fast hard disc and 8Mb RAM minimum. A StrongARM processor is recommended. Check suitability for your computer before ordering. 1 years guarantee. E & OE.
*To obtain good quality video requires storage of around 1.5Mb per second (5.4Gb per hour).

Access

VISA

The hustle and bustle of Cell City



We mentioned *Cell City* briefly in last month's news, but here is a more detailed description of this new multimedia education package from Anglia Multimedia. *Cell City* was developed in association with the Institute of Food Research and the John Innes Centre and represents a novel way of learning about how a biological cell works. The *Cell City* idea has already been highly successful in schools across the country in the form of a lecture presentation.

Aimed at 14-16 year olds, *Cell City* represents the functions of a cell as those of a big city, including energy generation and supply, manufacturing, waste disposal, recycling, communication, transportation and replication. Electron microscope images and videos of cells in action complete the picture. Users also learn about how both optical and scanning and transmission electron microscopes work.

In addition, in the pack you get an interactive glossary, a collection of photomicrographs, an on-screen slide show with commentary, on-screen activities and additional teacher information and student worksheets. A ten-user site licence for *Cell City* is priced £50. Contact SCA (Anglia Multimedia), P0 Box 18, Benfleet, Essex, SS7 IAZ, tel: 01268 755811.

Product	New features/product details	Price	Contact
TriLink re-release	* Budget ANSI & VT100 terminal package for quick and easy access to bulletin boards * Supports internal and additional serial ports * Supports flashing, bold, inverted, italic and underlined text * Eleven button control panel * Online timer * Macros facility * Easy to set up config options	£15 + £1.50 p&p	Bajorasoft Tel/fax: 01689 877586 E-mail: info@bajorasoft.demon.co.uk WWW: http://www.bajorasoft.demon.co.uk/
Protected mode (or 32-bit) CD-ROM driver for Win95	* Deals with some problems on recently produced CDs which would not work on the PC card due to the way in which Win95 treated DOS CD-ROM drivers * Also supports other WIn 95 features incl Auto-insert notification and AutoRun * Requires !PC v2.00 or later (ie PCPro) and Win95	Update is free of charge from website or by ftp or send SAE requesting 32-bit CD-ROM driver	Aleph One Ltd Bottisham, Cambridge, CB5 9BA WWW: http://www.aleph1.co.uk/32bitCDROM.html or ftp://ftp.aleph1.co.uk/aleph1/CDv102.zip (11K)
LayerFS	* Based on the unique so-called 'image filing systems' * Provides directories that are constructed by overlaying the contents of a single number of different source directories – what you see in a single LayerFS directory may sit on different sources * More features will be developed soon * Works with RISC OS 3.1 or newer * StrongARM compatible		Feldner & Braun Software Tel: +49 921 47463 E-mail: bt066@bayreuth.baynet.de
NetMail Suite	* Uses standard AUN protocols for client/server communication * Requires very little setting up – just the max number of allowed users, user names & leave it running * Can use advanced features if required	£30 Upgrades will be free from website when available	Squirrel Solutions E-mail: glenn@squirrel-net.demon.co.uk WWW: http://www.squirrel-net.demon.co.uk/ (follow links to NetMail page)
64Mb & 128Mb SIMMs now at reasonable prices	* All tested prior to despatch * Usually in stock	64Mb SIMM - £140.94 inc VAT 128Mb SIMM - £293.69 inc VAT	Clares Micro Supplies Tel: 01606 48511 E-mail: sales@clares.demon.co.uk
Handeze Energising and Therapeutic Support glove	* Ideal for regular computer users as they alleviate pains and strains in the wrists, hands and fingers caused by overuse * The stretch material reacts to every hand movement producing an automatic massaging and energising effect	£15 per pair inc p&p	PCD Maltron Tel/fax: 0181-398 3265 E-mail: sales@maltron.com WWW: http://www.maltron.com
PublishArt3 printed list	* The printed list of all artwork on PublishArt 3 from Smart DTP has been revised	£7 plus £1 p&p	Flipside Web Design Tel: 01803 863863 (9-5.30 w/days) WWW: http://www.flipside.co.uk

New low-price digital camera from IMS

A digital camera for £200 plus VAT represents a very low price. IMS is selling the Mustek VDC 200 and bundling *!IRIS* software for Acorn users at that price. The camera is not leading edge at 640x480 pixels in resolution, but is fine for the entry-level of digital photography and perfectly adequate for illustrating websites and sending photos via e-mail.

The latest photo-capable inkjet printers will also produce surprisingly acceptable prints from cameras like the VDC 200. The camera has a high mode resolution of 640 x 480 pixels, a standard mode of 320 x 240, a 45mm Colour LCD display, an auto ranging built-in flash, 24-bit colour depth and an industry standard Compact Flash memory cartridge.

!Iris200 software with image enhancement ability, power adapter, batteries, carry case and link cable are included in the £200 + VAT price. The minimum host computer specification required is: Risc PC, A7000 or A7000+ with at least 4Mb RAM. For more information, contact Jon Cashen at jon@ims-bristol.co.uk

Contacting me

You can contact the news page by writing to me Ian Burley at the usual Acorn User address or by e-mail: aunews@idg.co.uk

Bubble Impact

Owl-Art Un-Ltd have acquired the UK distribution rights for *Bubble Impact* by the Moving Pixels team, making it much easier for UK gamers to obtain the game without having to send Deutschmarks through the post.

As a quick recap for those of you who didn't see my review in the March '98 issue, *Bubble Impact* is a near perfect conversion of the classic *Bubble Bobble* arcade game (incidentally, several people e-mailed me to say that it's not called *Bubble Bobble* in the Arcade. It was actually released under several different names, but as far as I know, *Bubble Bobble* was the original).

The game is similar to *Tetris* but with more of an arcade feel. You are presented with an array of multicoloured bubbles and the aim is to fire more bubbles up the screen. When groups of the same colour bubble collide, they explode. Simple, but very playable. *Bubble Impact* is highly recommended.

Fortunately the game is still available at the 'shareware' price of only £4.50 and has 'been improved to give faster game play and a new *Challenge* game-mode'.

You can download the demo from http://www.acornarcade.com/ or order the full version from Owl-Art Un-Ltd., 100 Skegby Road, Annesley Woodhouse, Kirkby-in-Ashfield, Nottingham, NG17 9FF. Make cheques payable to 'A.M.Conroy'.

Please state whether you have downloaded the demo version (which can then be unlocked), or whether you require the full game to be sent on disc. Don't forget to include your e-mail address if you have one.

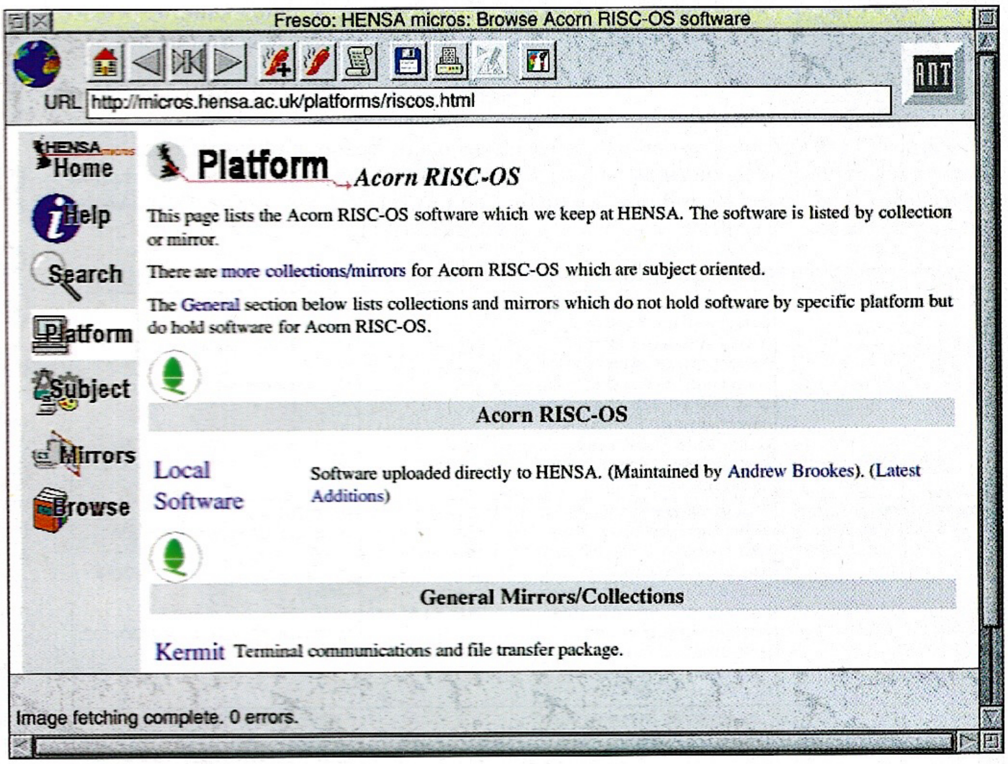
FlexiCD

The *FlexiCD* application included on the Xmas '97 cover disc has now reached version 1.2. Registered users can get the latest version by sending Andrew the original disc. Other users can get a copy via the Web at http://www.york.ac.uk/~ajb121/ Contact Andrew by post at 155 Sandygate Road, Crosspool, Sheffield, S10 5SA.

Software archive

Tim Fountain is in the process of constructing a software archive that will hopefully become an important site to check for all the latest software. As Tim describes, 'This will basically be a pretty comprehensive set of links split into categories such as *Internet-related software, image related software, games software* etc. This should hopefully make it much easier for people to find what they want.'

A uniform interface will provide the front end to an array of program information maintained by the individual software authors. Tim needs the help of PD authors to make the site work, so if you're interested in having your code featured please get in touch with Tim at tim@markgf.demon.co.uk or browse to his website at http://www.markgf.demon.co.uk/software/



Fresco: HENSA micros: Browse Acorn RISC-OS software

URL http://micros.hensa.ac.uk/platforms/riscos.html

Platform Acorn RISC-OS

This page lists the Acorn RISC-OS software which we keep at HENSA. The software is listed by collection or mirror.

There are more collections/mirrors for Acorn RISC-OS which are subject oriented.

The General section below lists collections and mirrors which do not hold software by specific platform but do hold software for Acorn RISC-OS.

Acorn RISC-OS

Local Software — Software uploaded directly to HENSA. (Maintained by Andrew Brookes). (Latest Additions)

General Mirrors/Collections

Kermit — Terminal communications and file transfer package.

Image fetching complete. 0 errors.

Following my article last month discussing the problem of declining file archives on the Net, I've discussed the issue with several program authors and users. The consensus is that although a central download site makes it easy to find all the software you want, you don't get the associated information and support of a more personalised author's site and it's often just too much time and hassle for authors to support central sites. A personal site is quick and easy to maintain and, by definition, always has the latest versions of the software in question.

A compromise solution is a central software archive that receives much more maintenance than traditional sites. The requirements seem to be ease-of-use and good presentation of the important information, such as how recently the software has been updated. I hope I'm proved wrong, but I'm a little doubtful that asking authors to maintain their part of a site as in Tim's software archive will be popular enough to work. The alternative is for a dedicated enthusiast to maintain a specialist archive which they can concentrate on without it taking an unreasonable amount of work.

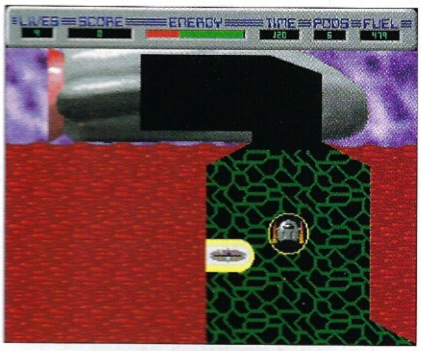
Dave Sharp runs an excellent example of this solution in the form of the Acorn Emulation Archive at ftp://ftp.acornusers.org/pub/emulators/ This archive is *the* place to go for everything in the emulation field and a perfect example of how useful this form of website can be. As always, if you'd like to discuss this, or any other public domain or coding issue, please drop me a line at the address below.

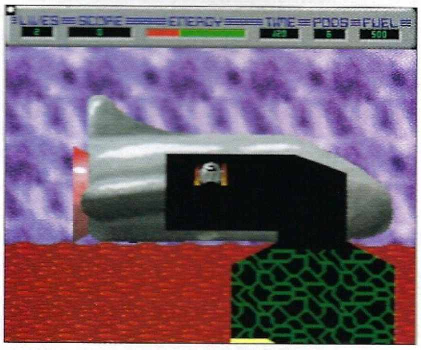
Recommended PD Libraries

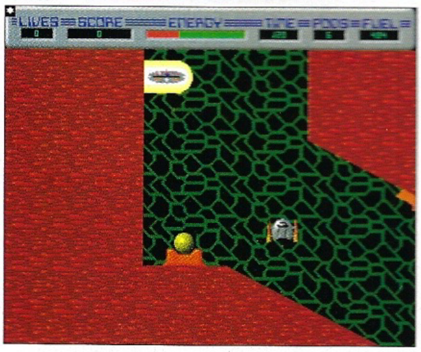
- APDL, 39 Knighton Park Road, Sydenham, London SE26 5RN
- ARM Club PD Library, Freepost ND6573, London N12 0BR
- Beebware PD, 83 Forrest Road, Huncote, Leicester LE9 3BH
- Five Star Marketing, 4 Shepherds Walk, Bushey, Hertfordshire WD2 1LZ
- The Datafile, Willoughby House, 89 Woodville Road, Boston PE21 8BB

More Thrust

Andrew Booker is developing another *Thrust* clone for 32-bit machines, and it's rather nice. Currently the game is still in its infancy, but there's plenty in this early release to get your teeth into.







Andrew has used the classic *Thrust* idea and taken it further. Simply fly your ship around caves on a sideways scrolling landscape using your thruster to fight against the pull of gravity.

Collect tokens and shoot enemy guns as you go. That's the basic story, but Andrew has already started adding new ideas to the game. One of the outstanding additions are the water-filled caves that appear here and there throughout the cavern system.

You're flying along normally, carefully balancing the gravity with your thruster, and suddenly as you submerge into a flooded cave the gravity disappears and you're left with a light buoyancy. If you're traversing a narrow tunnel that's half flooded it's really quite tricky.

Ideally you need the addition of a few water splashes when you touch the surface. Perhaps even a complete water flow or particle system to represent currents and waves in a Risc PC version? Another new feature is the multiple balls you have to collect from the caves. Rather than pick up one and escape as in the original *Thrust*, there are multiple objects to collect, which you have to drop off into special 'cups'. Picking up is easy, but the journey to the drop off point and the pixel perfect drop require much concentration.

Compared to the *Thrust* I reviewed in the April '98 issue, the graphics in *ArcThrust* are a little disappointing. Richard Atter's version had its own style and feel which I really liked, and *ArcThrust* doesn't really do anything to create an atmosphere within the game.

Having said that, it's usually the playability that counts in PD games and there's plenty of that. Other than the dodgy scrolling which detracts from the fun a little, the game runs along nicely and performs happily on everything from an ARM2 to a StrongARM.

Currently the game only features one (very taxing) level, but Andrew plans to add many more with future releases. Currently you can't download the game or purchase from a PD library, but person to person swaps of the game are allowed. For more information contact Andrew at ajb121@york.ac.uk or by snail mail to 155 Sandygate Road, Crosspool, Sheffield, S10 5SA.

Type of thing

PD page regular, Dave Sharp has recently taken over development of the well-known *TypeFind* utility, and maintains a mini-collection of similar and complimentary software on his website. All these utilities are recommended and are described by Dave below:

- **TypeInfo** – (Latest version 1.71, http://www.geocities.com/SiliconValley/Park/4119/typeinfo.htm)

A massive shareware database (registration £5) of filetypes that interact with the WIMP so as to present information and a sprite for over 1200 filetypes if they are unrecognised by RISC OS when you double-click on them. This does virtually the same job as *AppByType*.

- **TypeFind** – (Latest version 2.11, http://www.geocities.com/SiliconValley/Park/4119/typefind.htm)

The popular freeware filetype guesser, previously by Ben Schofield analyses the internal data of the file/s (it also handles batch jobs) dragged to it and tells you what it thinks the file is from a database of over 200 filetypes.

- **MapIt** (Freeware) – Latest version 1.3, http://www.geocities.com/SiliconValley/Park/4119/mapit.htm)

Takes any file/s dragged to it and if it recognises the DOS extension can set the Acorn type, remove the extension, and change the letter case to lower rather than the stark upper-case letters used by DOS. All this is configurable.

MapIt and *TypeFind* will utilise the data stored in *TypeInfo* if it has been 'seen' by the filer to present the user with the file icon for any filetype displayed, and open *Typeinfo's* data window for the appropriate filetype at the click of an icon.

Arctic

Many apologies for my error in the news item about Arctic BBS (April '98) where I actually gave sysop Steve Pursey's mobile number rather than the BBS number. For those of you wishing to access Arctic's wealth of PD software rather than wanting to talk to Steve through a modem, try these numbers: BBS Line 1 – 0181 9031309, BBS Line 2 – 0181 9031308.

Revelation intro

Details of Revelation 98, the UK demo competition taking place at Acorn World, will be finalised and announced by the time you read this. The announcement will be accompanied by an excellent little intro by DFI. An early preview I've got my hands on looks very tasty, and combines a rippling transparent scroller with a 2001 style zooming background. Gorgeous graphics in 24-bit colour. More next month.

FSI Batch

This crucial utility does exactly what it says in the name. Give it a number of image files to process and *FSIBatch* feeds them automatically into *ChangeFSI* to process them in a batch. Rather handy, and nicely configurable. Surf to http://www.argonet.co.uk/users/tudor

Jaw Wars

Check Stephen Scott's new game *Jaw Wars*, which is now available as a beta release from his website at www.geocities.com/SiliconValley/Pines/2760 I've not had chance to download it as yet, but Stephen describes it as being a little understated, but worth the download. The game is under continual development as part of Stephen's degree and so, he assures, will be much improved by July.

The word on *Tank Duel* (written by Stephen's brother, Graeme) is that the game will be re-coded in the summer.

Contacting me

You can contact the PD page by writing to me, Paul Wheatley, at *Acorn User*, IDG Media, Media House, Adlington Park, Macclesfield, SK10 4NP. Or preferably, by e-mail to aupdpage@idg.co.uk

Showroom open Mon-Sat 10-18.00 hrs **(All prices INCLUDE VAT)** Carriage not included

CD-ROM Drives

Multi-Session, PhotoCD, CD-DA, White & Green Book compatible. SCSI drives require SCSI card withCDFS>2.20
Carriage: a=£2, b=£6, c=£8

Internal CD-ROM Drives

Panasonic 24xCD **ATAPI**	£70c
ATAPI Cable & Fitting Kit	£10a

Above drives are compatible with RiscPC Computers with RiscOS 3.60 or greater and all A7000 Computers.

Sony 2x CD **SCSI** 275ms	£60c
Pioneer 24x CD **SCSI** 130ms	£Callc

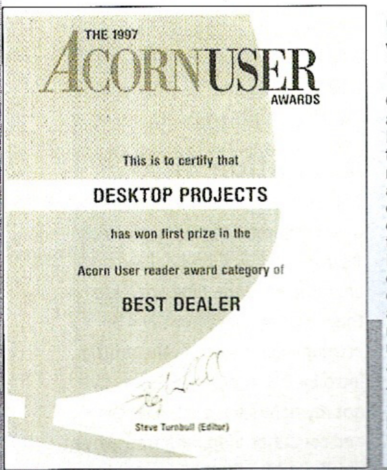
External CD-ROM Drives

New

Panasonic 24xCD **ATAPI**	£160c
- suitable for Simtec IDE interface	
Sony 2x CD **SCSI** 275ms	£135c
Pioneer 24x CD **SCSI** 130ms	£Callc

TopicART CD £15a

This CD-ROM contains over 2000 ClipArt files, each in Draw, ArtWorks & CorelDraw3.0 EPS formats. The CD also includes high quality Replay Movies & other demos. Site Licence is included.



THE 1997
ACORNUSER
AWARDS

This is to certify that

DESKTOP PROJECTS

has won first prize in the

Acorn User reader award category of

BEST DEALER

Steve Turnbull (Editor)

Hard Discs

New

Carr.: a=£2, b=£6, c=£8

NEW!! Simtec IDE Interface £69

New High performance IDE/ATAPI interface for all RiscOS Computers from A3000 to RiscPC (specify when ordering). Supports up to 4 IDE/ATAPI devices including ATAPI CD-ROM Drives.

3½" Hard Drives	IDE	SCSI
IBM 540Mb	-	£150b
Quantum 2.1Gb	£120b	£180b
Quantum 4.3 Gb	£170b	£240b
S/g Cheetah AV 4.5Gb	-	£520c
S/g Cheetah AV 9.1Gb	-	£830c

10,000rpm Cheetah drives are very suitable for VideoDesk.

Syquest Removable SCSI Drives

EZ230 Ext Drive	£120c	EZ230Mb Cartr.	£21a
EZ135Mb Cartr.	£20a	270Mb Cartridge	£40a

zip/jaz Drives

New

Now include our RiscOS JazZip tools (£17 if purchased separately)

- zip & jaz Drives work just like hard drives except they are removeable, giving instant access to files
- 100Mb discs for zip & 1Gb discs for jaz drives.
- Data transfer speeds up to 1Mb/s for zip drives & >5.5Mb/s for jaz drives - ideal for backup up.
- Each drive comes with 1 year warr. and a disc.
- SCSI drives require a SCSI card that is suitable for removeable devices.

Internal SCSI zip drive	**£115c**
External SCSI zip drive	**£115c**
External Parallel zip drive	**£115c**
- add £29 for RiscOS Parallel Driv'r	
Single 100Mb zip Cartridge	£11a
Pack of 6 zip Cartr. with caddy	£65b
Internal 1Gb jaz drive (3½")	**£210c**
External 1Gb jaz drive	**£240c**
Single 1Gb jaz cartridge	£70a

Carriage: a = £2, b = £6, c = £8, d = £10

JazZip Tools

New

The ultimate utility for SCSI or Parallel Iomega Zip/Jaz Drives

£17a Inc VAT

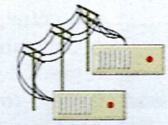
(free when purchased with a drive)

JazZip provides you with a complete set of RiscOS tools for Jaz/Zip drives which are equivalent to those provided with the PC DOS utilities that are provided with Iomega drives. Requires a driver for parallel use. Features include;

- Password protection of discs using the standard Iomega protection features which are compatible across RiscOS, PC and Mac platforms.
- Lock/Unlock zip/jaz discs without passwords.
- Lock/Unlock zip/jaz discs with passwords.
- Unlock zip/jaz discs until next ejected from drive.
- Low Level format zip/jaz discs.
- Initialise zip/jaz discs for RiscOS.
- Initialise zip/jaz discs for DOS/Windows.
- Unprotect the Tools disc provided with drives to allow them to be reformatted/Initialised for Acorn
- Compatible with IZipFS, Morley, Cumana, VTi, PowerTec SCSI. Other support to be verified.

QuickLynk (v1.04) £25a

With Local Cable 5m - £36a, 10m - £38a, 20m - £44a



QuickLynk allows you to access another remote RiscOS computer using the serial port via modems or locally using a cable to connect the 2 computers. Each computer can be configured to allow access to any attached filing system device eg ADFS, IDE, SCSI, CDFS, etc. Once connected, files can be transferred to/from the remote computer. Other features include password access, auto dialler with phone book and chat mode to send messages to remote computer/user. Transfer rates up to 1.9 kbytes/s can be achieved with older computers, eg. A410, A3000, rising to 11.4 kbytes/s on the RiscPC range. The transfer rate is limited by the serial port speed. QuickLynk cannot at present be used directly from programs/command line. Requires RiscOS 3.10 or greater.

RiscOS Computer Systems

Reduced Prices

1yr warr. **Carriage included on computers.** All machines are single slice. Backplane fitted to 10M R

233MHz StrongARM now fitted to all RiscPC Computers.

Computer Model with	14" (Samsung)	17"(8617)	No Monitor
A7000+ 8MHD1.2Gb	£925	£1225	£785
A7000+ 8MHD1.2Gb+8xCD	£975	£1275	£835
A7000+ 8MHD1.2Gb+24xCD	£995	£1295	£855
RiscPC StrongARM 4MHD1.2Gb	£1039	£1309	£899
RiscPC StrongARM 4MHD1.2Gb+8xCD	£1079	£1349	£939
RiscPC StrongARM 4MHD1.2Gb+24xCD	£1089	£1359	£949
RiscPC StrongARM 34MHD1.7Gb+24xCD	£Call	£Call	£Call

34M RiscPC includes Acorn J233 Internet software pack (avail.May 98)

NEW!! RiscPC's are now available with 15" iiyama Monitors

Add £75 to 14" (Samsung) prices for iiyama MF-8515G 15" Monitor.

Add £40 to 17" prices for iiyama MT-9017T instead of MF-8617T.

20/20 Finance on Acorn computers - ~20% deposit & 20 interest free monthly payments. Loans from £700(min) - £3000. Subject to status.

Mail Order - 0161-474 0778 **(All prices INCLUDE VAT)** The lowest prices without compromise

RiscPC PC Cards

Acorn 586-100 (128kb)	£350c
-above price includes PC Pro	
PC Pro (without PCExchange)	£38a
Windows '95 CD (Full)	£90a

The above can be installed directly from CD without previously installing DOS or Windows.

RiscPC Upgrades

New

RiscOS 3.70 Upgrade	**£58a**
- Above is suitable for RiscPC's only.	
233MHz StrongARM	£275b
2nd Slice with PSU	£116c
2nd Slice without PSU	£90c
YES 16 bit Mozart Card	£70a

Memory

Following prices strictly whilst stocks last.

RiscPC/A7000 SIMMS

8Mb	£20a	16Mb	£25a
32Mb	£45a	64Mb	£100a

RiscPC VRAM

1Mb 2nd user	£40a	2Mb	£88a
1-2Mb u/g (exchange)			£65a

Call for details of memory for other models.

Monitors (Carriage £10)

Older computers will require an adaptor	£12
Samsung 14" Monitor	**£140**
FST, 0.28" dp, 1024x768, 30-54kHz & pre-sets.	
Samsung 15" Monitor	**£190**
High spec FST Tube with 0.28" dot pitch	
Ilyama MF-8617T 17"	£410
High spec FST Tube with 0.26" dot pitch	
Ilyama MT-9017T 17"	£450
Very High spec Diamondtron tube, 0.25" stripe	

Printers (Carriage £8)

Canon BJC-4300	£140
Canon BJC-4550 (A3)	£255
Canon BJC-4650 (A3)	£279
Canon BJC-5500 (A2)	£535
Canon BJC-620 (720dpi)	£220
BJC-7000 (1200x600dpi)	£295
Epson 400 (720dpi, 3ppm)	£149
Epson 600 (720dpi, 4ppm)	£199
Epson 800 (1440dpi, 7ppm)	£270
HP LaserJets 6L (6ppm)	£295
HP LaserJets 6P (8ppm)	£585

Add £47 to above printers for TurboDriver

Portable Computers

Carriage: a=£2, b=£6, c=£8

Pocket Book II (1Mb)	£245b
Psion 5 4Mb RAM	**£395c**
Psion 5 8Mb RAM	**£425c**
- includes PsiWin Link	
AutoRoute Express	**£50a**

- one of the best packages for the PB/3a

A-Link	£59a	Mac Serial Link	£50a
Parallel Link	£34a	PsiWin PC Link	£80b
3/3a Mains Adap.	£18a	5 Mains Adaptor	£20b

Hardware Upgrades

24i16 Card (1Mb)	£450b
DMI50 Dual Midi Card	£138b
DMI50XGS Midi/Synth	£335b
Dual Serial Card	£104b
FPA for 25MHz ARM3	£67a
Joystick I/F (Not RiscPC)	£30a
Logitech Mouse (Acorn)	£30a
Movie Magic (1 only)	£175b
- Includes two VideoCD films	
RiscTV Card (Irlam)	£285b
RiscTV Keying Module	£46a
RiscTV Teletext option	£45a
Scart Cable (9 or 15 pin)	£12a
Serial Upgrade (A3000)	£27a
100W Stereo Speakers	£25c
Videodesk (Irlam)	£1145b

Scanners (Carriage £8)

ScanLight Video 256	£175
- suitable for A3000-A4000	

Epson Colour Scanners

Include !TWAIN & ImageMaster for RiscOS. Bundles include CorelPaint & OCR software for PC's/PC Cards and approp PC interface card.

GTx-5000 Para bundle	£235
GTx-5500 SCSI bundle	£300
GTx-8500 Para bundle	£525
GTx-8500 SCSI bundle	£550
GTx-9500 Para bundle	£620
GTx-9500 SCSI bundle	£660

I³ Networking (Carr. £6)

A30X0 EtherLan 102	£130
Archi EtherLan 514	£130
RPC/A7k EtherLan 602	£110

Add £17 to above prices for Access+.

Modems (Carriage £8)

Budget 56kVoice Modem	£95
Pace 56k Voice (Flash)	£140
Pace 56k Solo (Flash)	£190

- The Solo modem can save fax & voice
- messages without a computer attached!
Modems come with a 9-25 PC wired cable.
A3000/Archimedes req'r an Archi wired cable.

ANT Internet Suite II	£110a
Dual Serial Card	£104b
9-25 Archi or PC Wired Modem Cable	£12ea.a
3-way Serial T-Switch (incl. comm. cable)	£32b

Printer Consumables

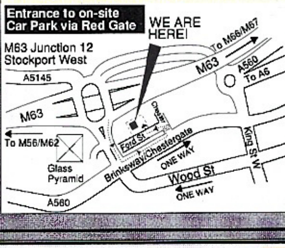
Carriage: £2 for Cartridges, £8 for Toner

BJ-10 (BC-01)	£18	BJ-200 (BC-02)	£19
BJ-210 (BC-05)	£28	BJ-240 (BC-06)	£Call
BJC-600 Series		BJ-300 (BJI-642)	£16
BJI-201HCbk Black	£10	**BJC-4000 Series**	
BJI-201bk Black	£6	BCI-21Bk Black	£8
BJI-201C/M/Y	£8 ea.	BCI-21C Colour	£16
BJC-800		BC-20 Fast Black	£24
BJI-643 Black	£18	BC-22 Photo Cart	£34
BJI-643C/M/Y	£23 ea.	BC-22 Photo Kit	£39
HP DeskJets-500 ser.		**HP DeskJets 600 ser.**	
Mono	£23	Mono	£25
Colour	£25	Colour	£27
Eps Stylus Black	£16	Eps Stylus II Black	£20
Eps Stylus Colour	£26	Eps Stylus II Col'r	£26
Laser Toner		C3903A (LJ5P)	£64
EP-L (LBP-4)	£64	HP92274A (LJ4L)	£60

Terms & Carriage

Carriage: To benefit personal callers to our showroom carriage is itemised seperately. The carriage indicated is for single items. Please call us for total carriage when ordering more than one item since it is not cumulative.
Terms: All prices include VAT except books. Carriage is not included unless otherwise slated. Carriage charges apply to mainland UK (excluding remote areas, Scottish Highlands, Chann Isles, IOM), elsewhere at cost. Orders MUST be accompanied by a phone number. Prices and spec's subject to change without notification. Goods subject to availability. Goods not offered on trial basis. Restocking fee on non-faulty returns. Educ Inst official orders accepted. E&OE.

Where to Find Us



Books (No VAT)

Carriage: a=£2, b=£6, c=£8,

Acorn RISCOS3 PRM's	£99.95c
Acorn Volume 5a PRM	£29.75b
Acorn BBC Basic VI Guide	£19.95b
Acorn RiscPC Tech Ref Manual	£49.95c
Budget DTP (Dabs)	£5.00a
'C' A Dabhand Guide (Dabs)	£5.00b
RiscOS 3 First Steps (Dabs)	£5.00a
Wimp Programming for All (Beebug)	£10.95a

CD-ROM's

CD software for RiscOS

ArtWorks on CD (CC)	£105b
Childrens Micropedia (Kingfisher)	£72b
ClipArt CD 1/2 (CC)	£21a each
Dinosaurs (Microsoft)	£50a
Doom Trilogy (RiscPC only)	**£33a**
Dune II (Eclipse)	£32a
Granny's Garden CD	£37a
Guardians of the Greenwood	£55a
Hutchinsons Encyclopedia 92 for RiscOS	£19a
Hutchinsons Encyclopedia 97 for PC only	£19a
Kiyeko	£36a
Musical Instruments (MS)	£50a
My 1st Incred. Amazing Dictionary (DK)	£39a
PB Bears Birthday Party	£39a
RiscDisc Vol 1 / 2 / 3 CD	£15a / £20a / £25a
Simon the Sorcerer CD	£32a
The Way Things Work (DK)	£50a
TopicArtCD (DTP)	£15a
Ultimate Human Body (DK)	£50a

Applications

Carriage: a=£2, b=£6, c=£8

Acorn C/C++ (Acorn)	£229c
Advantage (Longman)	£51a
ANT Internet Suite (ANT)	£110a
ArcFax (David Pilling)	£33a
ArtWorks (CC)	£105b
Card Shop (Clares)	£23a
Chameleon 2 (4Mation)	£39a
Compression (CC)	£31a
DataPower2 (IOTA)	£165b
Disc Rescue 2 (Look)	£43a
DrawWorks Designer (iSV)	£29a
Easy C++ (Beebug)	£112a
Eureka v3 (Longman)	£105b
FastSpool+ (WSS)	£17a
FireWorkz Pro (Colton)	£165b
Font FX 6 (DataStore)	£30a
Hatchback (4Mation)	£39a
HTML Edit 3 (R-Comp)	£47a
ImageFS2 (Alt Publ)	£43a
Image Outliner (IOTA)	£55a
Impression Style / Publisher	£83b / £136b
Impression Graphics Loaders (CC)	£39a
Impression Text Loaders (CC)	£39a
MacFS / MacFS Lite (CC)	£105a / £51a
Mr Clippy (iSV)	£19a
OmniClient II (Acorn)	£85b
Optical Manuscript	£259a
Ovation Pro (Beebug)	£175c
PC Pro (add £10 for PCExchange)	£38a
PC Sound Professional (R-Comp)	£28a
Personal Accounts (Apr)	£45a
PhotoDesk Light (Spacetech)	£129b
PhotoDesk2 (Spacetech)	£249b
Prophet (Apricote)	£160b
RiscCAD (Davyn)	£240c
S-Base2 Developer (Longman)	£100c
Sibelius Junior	£49a
Sibelius 6 / 7Stud. / 7	£100b / £349b / £699b
Sleuth2 (Beebug)	£105a
SparkFS (Pilling)	£24a
Speech 2! (Superior)	£24a
StrongGuard (ARMClub)	£24a
Studio24 Pro (Pineapple) **(One only)**	£105b
Textures Professional (R-Comp)	£19a
Touch Type (IOTA)	£42a
Top Model 2 (Spacetech)	£145a
TurboDrivers Canon/HP or Epson(CC)	£50b
Vector (4Mation)	£67a
Web Designers Toolkit (R-Comp)	£28a
XStitch2 (iSV)	£33a

Games (Carriage £2)

Alone in the Dark (Krisalis)	£32a
Birds of War (4D) 2Mb	£30a
B H P (TBA)	£28a
Break 147/Superpool (4D)	£30a
Carnage Inc (4D)	£16a
Chocks Compendium (4D)	£30a
Crystal Maze (Sher)	Floppy £28 / CD £32a
Cyber Chess (4D)	£16a
Drifter (4D)	£30a
Dune II (floppy) (Eclipse)	£30a
Empire Soccer (MagIm)	£24a
E-Type Compend. (4D)	£19a
E-Type 2 (4D)	£30a
Exodus (Artex)	£25a
Fire & Ice (Times Warner)	£23a
Global Effect (Eclipse)	£28a
GODS (Krisalis)	£10a
Haunted House (4D) 2Mb	£23a
Holed Out Compendium (4D)	£16a
Krisalis Collection	£28a
Lotus Turbo Chall2 (Kris)	£26a
Magic Pockets (Reneg)	£26a
Play it again Sam 2/3	£24a each
Real McCoy 2/3/4/5 (4D)	£30a each
Repton 3/4 (Superior)	£23a each
Saloon Cars Deluxe (4D)	£30a
Scrabble (US Gold)	£26a
Simon the Sorcerer 2Mb	£27a
Spobbleoid Fantasy (4D)	£27a
Starfighter 3000 (Fednet)	£28a
Stunt Racer 2000 (4D)	£30a
Time Machine (4D)	£23a
Virtual Golf (4D) 2Mb	£30a
Wolfenstein 3D	**£15a**
- Now compatible with RiscPC+StrongARM	

Educational (Carr. £2)

10/10 Series	**£14a each**

Early Essentials (over 7), English (6-16yrs), French (8-16yrs), Junior Essentials (5-11), Maths (Number) (6-16), Maths (Algebra) (6-16), Maths (Statistics) (6-16), Maths (Geom'y) (6-16), Spelling (over 9), Essential IT, Geog.,

Fun School 3 (under 5, 5-7, or over 7)	£22a
Fun School 4 (under 5, 5-7, or over 7)	£22a
Granny's Garden (floppy) (4M)	£26a
Maths Circus (4Mation)	£28a
Naughty Stories Volumes 1 or 2	£45a each
Playdays (Gamesware)	£24a
Ridiculous Rhymes	£45a
Rosie & JimTwin Pack	£18a

Desktop Projects Ltd

Unit 2A, Heapriding Business Park, Ford St, **STOCKPORT**,
Cheshire. SK3 0BT. WWW: http://www.desktopp.demon.co.uk
Email: info@desktopp.demon.co.uk. Open Mon-Sat 10.00-18.00 hours.

Tel: 0161-474 0778
Fax: 0161-474 0781

We Accept

JUN 98

The good, the bad and the HTML

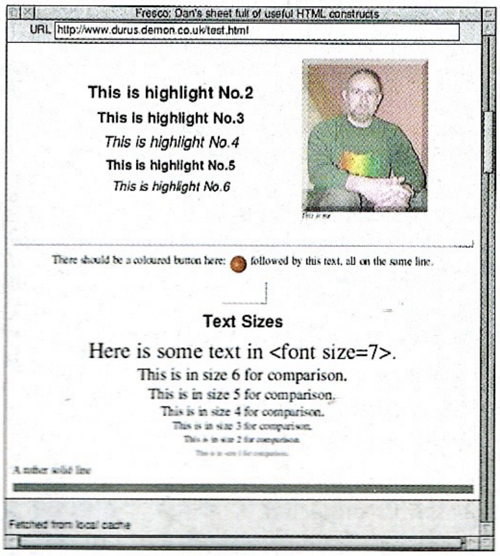
There are as many ways of interpreting and displaying HTML, the script language of Web pages, as there are different browsers, and this fact is often ignored by both commercial and enthusiast Web designers. In the quest to create a new and striking site, it's tempting to use tricks and browser-specific effects to catch the eye; I've done it myself.

It's so easy to let style and design overpower the actual content, and if that content isn't clear when viewed using a different browser, the communication process has failed. Some designers recommend ignoring all the latest HTML specifications and write in the most basic markup that is 'best viewed with any browser'. Check out http://www.anybrowser.org/campaign/

Dan Everard runs an electronics, mechanical engineering and Web page design laboratory near Cambridge, and his website demonstrates most of the basic markup effects that have been checked with the popular browsers for consistency. Look at his source code for useful comments in the page at: http://www.durus.demon.co.uk/test.html

In the other extreme, there are some humorous examples of HTML coding that will indeed confuse various browsers on display at http://www.zikzak.net/~acb/hacks/htmlth.html At least here you can see what NOT to do. Follow the link at the foot of that page to Eric Tilton's 'Composing Good HTML' page at http://www.cs.cmu.edu/~tilt/cgh/ for some more sensible ideas.

If you want your website to be enjoyed by all, you could do no worse than take the advise of Dave Thomas mentioned elsewhere on this page, who recommends that his site is best viewed with the eyes in your head.


Fresco: Dan's sheet full of useful HTML constructs
URL http://www.durus.demon.co.uk/test.html

This is highlight No.2

This is highlight No.3

This is highlight No.4

This is highlight No.5

This is highlight No.6

There should be a coloured button here: ● followed by this text, all on the same line.

Text Sizes

Here is some text in <font size=7>.

This is in size 6 for comparison.

This is in size 5 for comparison.

This is in size 4 for comparison.

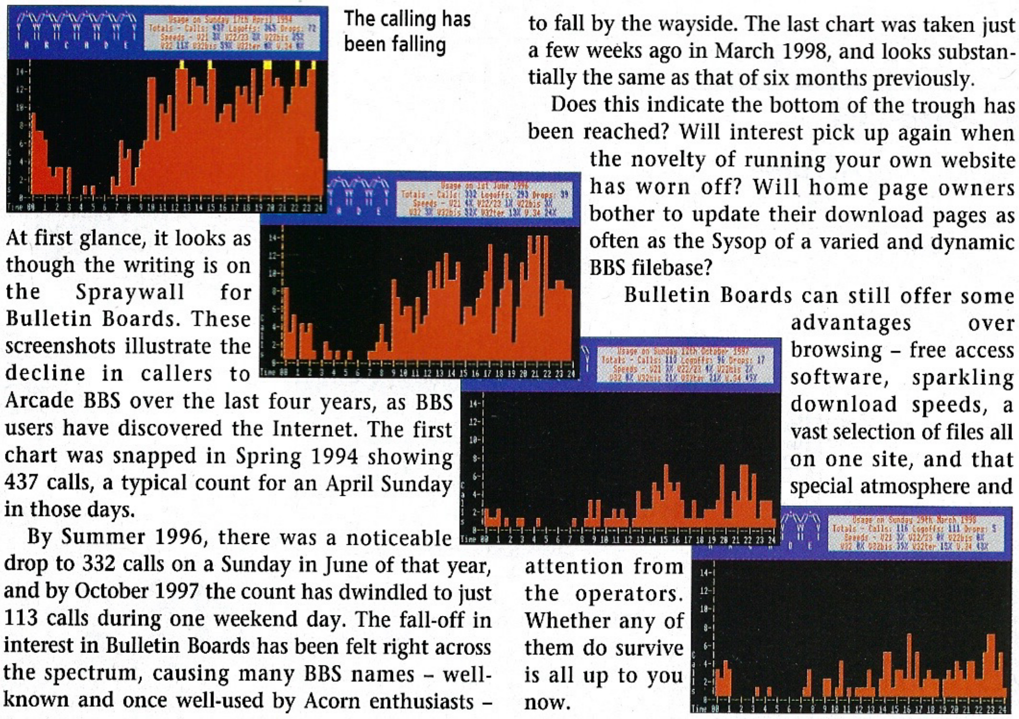
This is in size 3 for comparison.

This is in size 2 for comparison.

A rather solid line

First steps in HTML highlighting Dan Everard

Bulletin Boards – use them or lose them



The calling has been falling

At first glance, it looks as though the writing is on the Spraywall for Bulletin Boards. These screenshots illustrate the decline in callers to Arcade BBS over the last four years, as BBS users have discovered the Internet. The first chart was snapped in Spring 1994 showing 437 calls, a typical count for an April Sunday in those days.

By Summer 1996, there was a noticeable drop to 332 calls on a Sunday in June of that year, and by October 1997 the count has dwindled to just 113 calls during one weekend day. The fall-off in interest in Bulletin Boards has been felt right across the spectrum, causing many BBS names – well-known and once well-used by Acorn enthusiasts – to fall by the wayside. The last chart was taken just a few weeks ago in March 1998, and looks substantially the same as that of six months previously.

Does this indicate the bottom of the trough has been reached? Will interest pick up again when the novelty of running your own website has worn off? Will home page owners bother to update their download pages as often as the Sysop of a varied and dynamic BBS filebase?

Bulletin Boards can still offer some advantages over browsing – free access software, sparkling download speeds, a vast selection of files all on one site, and that special atmosphere and attention from the operators. Whether any of them do survive is all up to you now.

Break free with XML

XML, the 'Extensible Markup Language' is a new Web authoring tool that uses a simplified form of Standard Generalized Markup Language. SGML is the international language for describing the structure and content of different types of electronic document.

XML allows you to define document types that are suited to delivery over the Web in a more flexible way than possible with HTML, so that fudging to achieve special-effects will be a thing of the past, and Web pages will work with any XML software rather than that of specific manufacturers.

XML
http://www.ucc.ie/xml/

Haddock and Snickers

DaveSpace is the name of a website created, or should I say 'sliced', by David Thomas. He's a Computer Studies degree student who admits to spending far too much time writing software. Dave's pages contain some useful tips and tricks for *BBC BASIC V* programmers, software to download such as his shareware *NetPlex* Web server, and a page of things he considers good and bad, such as *Visual Basic* (Bad) and IRC's Helen Rayner (Good).

DaveSpace
http://www.tristone.co.uk/davespace/

WebsterXL first with JavaScript

Once upon a time in early Acorn browser days, there was only freeware *ArcWeb* and *Webster*. Attention was then focused on *Webite*, *ANT Fresco©*, and recently Acorn's *!Browse*. Now R-Comp have re-released *WebsterXL* as the first JavaScript-compliant Web browser for RISC OS. *WebsterXL's JavaScript* is built directly into the browser, so it will work with all Internet stacks including *Termite*, *ANT*, *Acornet* and *Acorn*. *WebsterXL* is priced at £30 (no VAT).

R-Comp. Tel: 01925 755043
E-mail: rcomp@rcomp.co.uk
WWW: http://www.rcomp.co.uk

Contacting me

Keep sending me interesting URLs for the next yoUR List by e-mail to david@arcade.demon.co.uk, or mail #2 on Arcade BBS 0181 654 2212.

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- Allows full use of Acorn Access+ peer to peer networking.

Please note that PowerZip+ is suitable for the Iomega Zip Plus drive in parallel mode and requires Risc OS 3.1 or later OS and a bi-directional parallel port.

NB: Choose PowerZip driver for standard parallel port Zip drives.

Power-tec Price List

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PowerZip	with Iomega Parallel Zip Drive:	**£115**
PowerZip	Driver only:	**£25**
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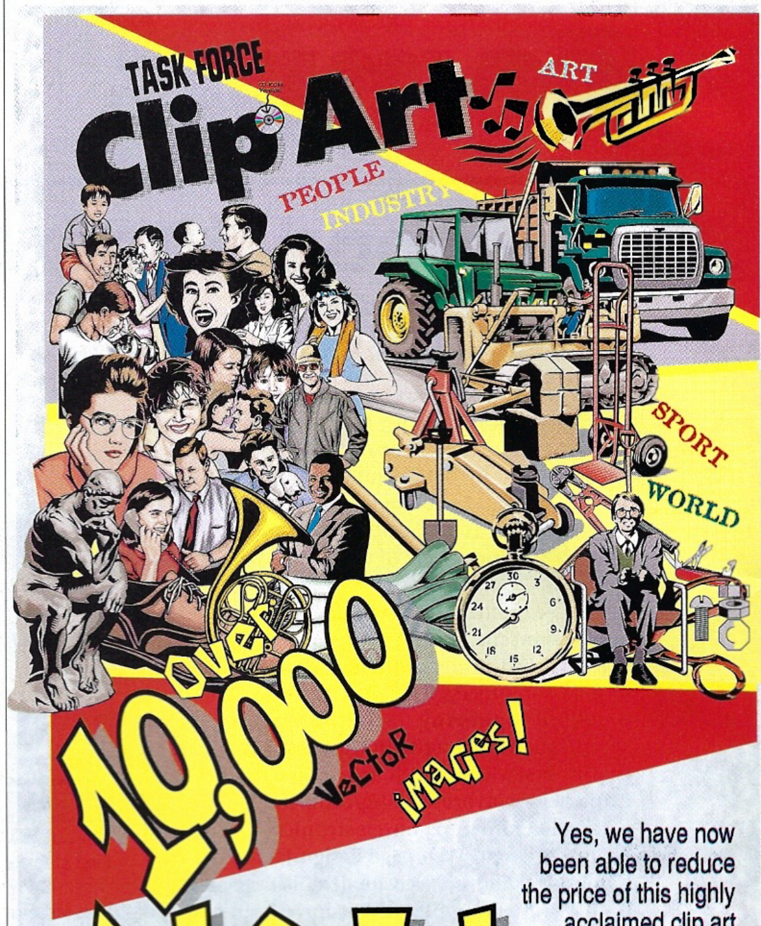

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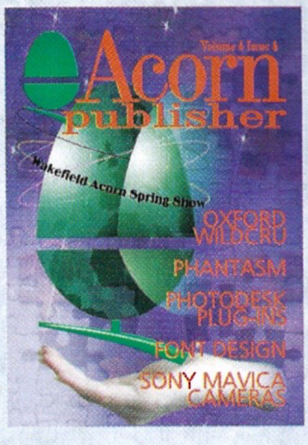

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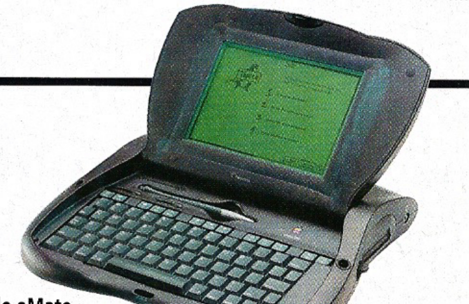
Xemplar committed to eMate



The Apple eMate – soon connectable to your RISC OS desktop

In a rather interesting move, Apple Inc., recently announced that they were suspending development of their Newton OS and related products such as the eMate, to concentrate on development of Mac OS. The company also stated their intention to have a replacement for the eMate, running Mac OS, available by early 1999.

Xemplar immediately issued a press release saying that despite this announcement they are fully committed to the eMate and have taken steps to ensure that they will be able to supply the product for the foreseeable future.

They also restated their commitment to developing connectivity software for the RISC OS platform and a beta test version of this was expected to appear around the time I write this (early April). This is great news for Acorn users and reinforces Xemplar's idea of being a platform independent company – I just hope they don't forget RISC OS users when the Mac OS "eMate" is released.

Watch out for a full review of the machine and link software as soon as I can get my hands on a copy.

Xemplar also recently announced the launch of the Pocket Book III. The new machine, based on the Psion 3c, will have twice the memory of the current Pocket Book, infrared data transfer facilities, a faster serial port and a backlit display. The current version of *PocketFS* doesn't work with the 3c, but Xemplar have commissioned IMS to produce a cut down version of *PsiRisc* specially for the new machine.

The Pocket Book III is available exclusively via Xemplar and costs £250 + VAT.

Xemplar
Tel: 01223-724724
http://www.xemplar.co.uk/

Psion updates

Psion have recently announced updates to two of their Series 5 related packages – *PsiWin 2* (the PC connectivity package) and the *Message Suite*.

PsiWin 2.1 offers improved synchronisation between applications, enhancements to the current conversion routines as well as new convertors for BMP (picture) and WAV (sound) files, increased integration with MS *Explorer* and an improved user interface. The number of software packages that the program can convert to/from has also increased and a number of bugs that existed in the first version have been fixed.

The improvements to the *Message Suite* mainly concern the Web browser which now supports image maps, mailto links, colour tags, 16 colours and copying from Web pages. This answers many of the criticisms that were levelled at the browser when it was first released. Numerous small improvements and bug fixes have also been made throughout the suite.

Both the upgrades are free and are available from Psion's website – be warned though, the *PsiWin2* upgrade is around about 16Mb!

Psion plc. Tel: 0990 134224
http://www.psion.com/

Purple Navigator

Purple Software recently announced the launch of *Navigator*, a powerful PC-style file manager for the Series 5. The program, which closely resembles the *Explorer* element of Windows 95, offers a intuitive window-style interface with 'drag and drop' file management.

Features of the package include the ability to create shortcuts to your favourite applications or datafiles, full file filtering and sorting, a search file option to find particular words/phrases and various view options. The program is fully configurable and can be used either alongside the Psion desktop, or as a replacement to it.

The program also offers integrated PKZIP data compression to optimise disc space. Files inside ZIP files can be run and edited totally transparently. The package also allows you to unzip files downloaded from the Net.

The package costs £29.95 inc VAT and I'll be reviewing it in full next time.

Purple Software. Tel: 0171-387 7777
http://www.purplesoft.com/

Palmtop oracle

At the recent Internet World show, Oracle Corp., announced plans to release *Oracle Lite* to various handheld platforms including Psion Software's EPOC 32.

Oracle Lite is claimed to be the industry's most robust, small footprint client database and is specially designed for mobile computing applications which need to be kept synchronised with a central server.

The system will provide a comprehensive set of database features with a memory requirement of only about 500K and will support a wide range of development tools, including Java and C++. The WindowsCE version should have entered Beta test release stage by the time you read this and expected availability of all versions is late summer '98.

The announcement of *Oracle Lite* for EPOC32 is great news and one that means the Psion Series 5 should become even more attractive to businesses.

Users will be able to seamlessly integrate mobile computing tasks with their central database servers. For example, a company's mobile salesforce could return home each day, connect their machines to the central server and the system would automatically update the two databases.

Palmscape unveiled

The 2nd April 1998 could well go down in history as the day that revolutionised the Series 5 shareware scene, thanks to the launch of Palmscape.

Palmscape is a conglomerate of well-known EPOC 32 (the S5's OS) developers whose aim is to produce commercial quality applications at shareware prices. Authors involved with the group include Jason Kneen, Mat Ripley and Russ Spooner.

Some of the applications currently available from Palmscape include *Backlite+*, *HTMLEdit98*, *Photo5* and *Psiuucode*. Most of these have been available from other sources for a while but the group's aim is to release one new application a week for the next couple of months.

Palmscape have also set up an excellent website where you can catch up on all the latest news, gossip and applications available. All the group's software is available for download from their website but Palmscape realise that not all Series 5 users are on-line and intend to set up an off-line distribution system.

This venture is excellent news for the S5 software market. The success of Palmscape, however, is dependent on users supporting the principle of shareware. If you download a shareware application (from anywhere, not just Palmscape) and find you like it then please make sure you send of the registration fee.

For more information on the venture check out Palmscape's website at http://www.palmscape.com/ or write to them at Palmscape, 182 Bromham Rd, Bedford, Bedfordshire. MK40 4BP.

Contacting me

You can contact the Portables page by writing to me, Mark Taylor at *Acorn User*, Media House, Adlington Park, Macclesfield SK10 4NP, or by e-mail to auport@idg.co.uk

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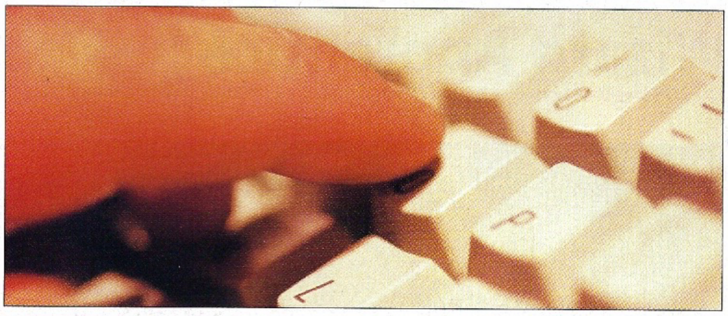
Back on-line



Regular readers of this column (yes, both of you) will know that I was off-line for a couple of months at the beginning of the year. I mentioned this in the April column and said that I was using the opportunity to look at the situation from an Acorn point of view, having previously used a PC for e-mail, Internet access and so on.

The first thing to do was to buy some Internet access software. I went for the *ANT Internet Suite* (£99 plus VAT). Not exactly cheap I know, but the suite is constantly being developed and improved and has good technical support and a thriving user support group. It also gave me the freedom to choose my own Internet Service Provider (ISP) rather than being tied to one. There are so many ISPs out there and it certainly pays to shop around.

Installing the *ANT Suite* and configuring it for my personal use was actually easier than I expected. Do not forget that most of this software is 'free' from a particular ISP on the PC side and usually involves no more than invoking the setup/install file from a supplied CD. Still – I suppose PC users need some things to be easy given the hard time they usually have struggling with the Operating System and inflated software.

I finally decided on Virgin.net and a call to them allowed me to open an account and be given the information I needed – user name and password – to enable me to set the *ANT Suite* up to run with Virgin.

All very easy and although Virgin do not specifically offer support for Acorn machines I did not feel it was required. The *ANT Suite* offers you the choice of set-up scripts for most major ISPs and quite a few minor ones. Exceptions include MSN and AOL.

The aspect of on-line communication that a business is most likely to benefit from is e-mail. Like it or hate it, e-mail is here to stay. My combination of ANT/Virgin has been virtually trouble free in respect to e-mail and it is possible to configure the system to achieve a high degree of auto-mation. E-mail has almost become the de facto standard for business communication and while the business letter is not dead it certainly appears to have contracted a terminal illness.

At this point however a word of warning – many business PC users do not understand the concept and/or execution of a file attachment. This is simply a file which is attached to an e-mail. A good example would be a copy of your CV or a business plan attached to a short covering letter to a prospective employer/investor. Obviously attaching an Impression file to an e-mail to a PC user would not be sensible, but most PC users cannot even handle Word 6 or ASCII attachments.

On the subject of CVs, job opportunities are now frequently advertised on the Web pages associated with the Internet. Many of these have sections where it should be possible to drag and drop a previously prepared text file. Doing this with the *ANT Suite* causes its browser – *Fresco* – to fail.

As an example of good support, when I posted this bug to ANT they said it was known and would be fixed in a future release and the support group mentioned a small utility called *!Insert* from Barry Wickett which enabled a work round. This is a small piece of shareware which inserts text at a cursor in applications which do not normally accept such inclusions. Problem solved.

I should mention that ANT e-mail requires the use of an editor for off-line composition of messages. *!Edit* is adequate but I downloaded the latest version of *!Zap* from Dominic Symes et al. This has an e-mail module which I have since used and found to be invaluable. Be warned *!Zap* is not for the faint-hearted but the results are worthwhile.

I really have had to re-consider my previously held position on shareware in the last few months and I am now of the opinion that much of it is better than some commercial software. I must say that I have been pleasantly surprised at how easy it has been to get back on-line using a purely Acorn solution. The *ANT Suite* software has performed well and certainly better than some PC comms software I have used.

The general upshot of all this is that I once again feel like I am part of the Internet community and in particular the Acorn part of it. I certainly suggest that all on-line Acorn users should subscribe and contribute to the comp.sys.acorn.misc newsgroup. Of course it also means that you can contact me again using the e-mail address at the bottom of the page.

Contact details

ANT Limited
Tel: 01223-567808
E-mail: sales@ant.co.uk
WWW: http://www.ant.co.uk
Virgin Net
24 hour free sales helpline 0500 55 88 00
!Insert
WWW: http://www.chortle.demon.co.uk
!Zap
Version 1.39b can be downloaded from various Acorn-related websites

Only Organize

Following on from my look at the excellent *!Organiser* in the April issue, I have come across another program designed to help you organize (correct English spelling for the pendants among you) your life. *!BigBook* is from Barry Wickett who features in the main story on this page. In essence *!BigBook* is a diary/planner, address book, letter tracker and note taker. A PD version is available at http://www.chortle.demon.co.uk/ and a registered version is available for the princely sum of £10.

Although currently lacking a manual it is still worth the asking price. This is well worth a look as it has a number of features not found in *!Organiser* and gives you a good chance to compare.

Only Organize 2

Continuing the organizer theme I have also had a look at the latest version of *!Almanac* from Stallion Software. You may remember that development of this excellent organizer went into abeyance but has recently been revived by Christopher Ashley, the original programmer on his return to these shores.

Version 3.08 is available to registered users of the original program from the Stallion website at http://stallion.demon.co.uk Chris is not quite ready to release the program again commercially but may do at some point in the near future I hope.

Changing Image

As an Acorn business user, one of the tasks I have to do most regularly is to convert images, usually graphics, from a file format which an Arc cannot understand to one which it can.

I have recently looked again at *ImageFS* version 2 from Alternative Publishing Ltd. I was not too impressed with version 1 as it was very limited in the types it could handle and those it could were all bitmap and not vector.

Version 2 can now handle 20 bitmap image type conversions and this area appears to be well covered but I was disappointed that it can still only handle 1 vector type – Windows Metafiles (.WMF). More vector type conversions are promised and top of my wish list would be CGM.

Alternative Publishing Ltd. Tel: 0141-248 2322

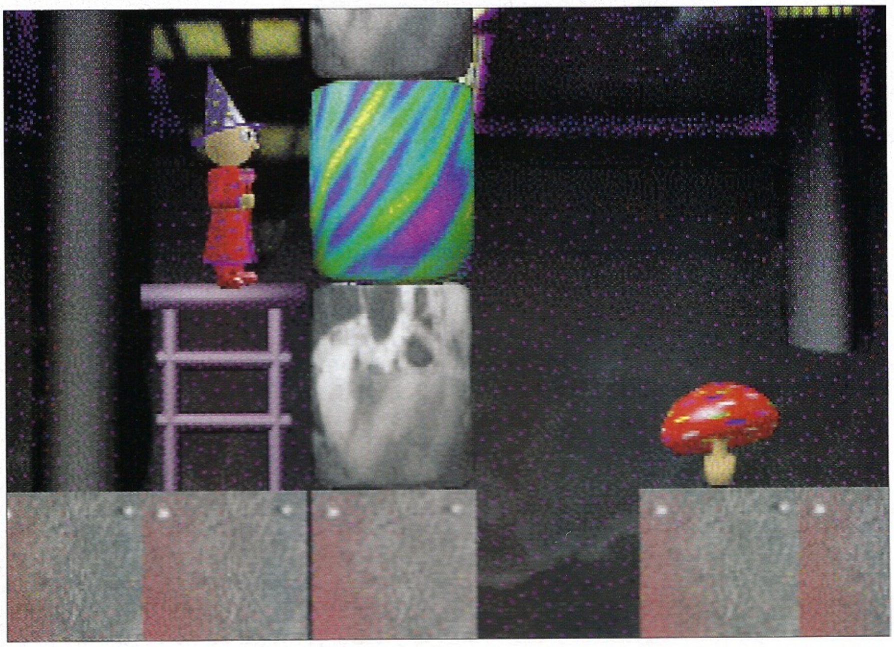
Contacting me

You can contact me, Mike Tomkinson, by post at the usual *Acorn User* address or by dropping me an e-mail at: *aubizniz@idg.co.uk*

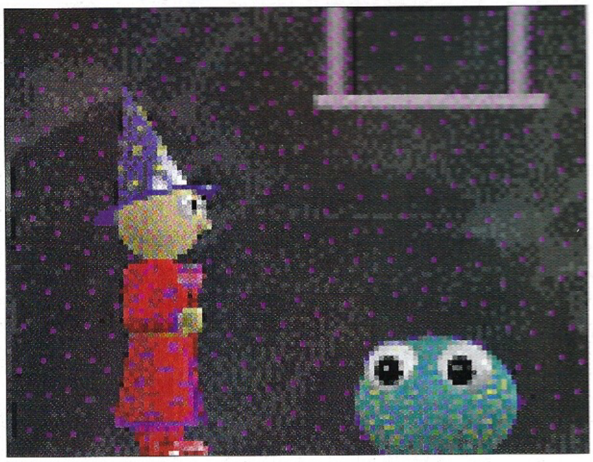
ACORN USER
JUNE 1998
Cover Disc 1
HOT SHOTS!
Using the 3D graphics render engine in anger
Mike Cook's Organiser software
All the *INFO programs
Super-filefind utility plus Office98
VIRUS CHECKED
ACORN USER
JUNE 1998
Cover Disc 2
Wizard Apprentice
A playable demo from Fantasia Software
Three levels of intriguing ladders and levels with amazing graphics and stunning sound
VIRUS CHECKED

Wizard Apprentice

Fantasia Software



You are apprentice to a Wizard and you can do magic – that about sums up the scenario behind Fantasia Software's aptly titled ladders and levels game *Wizard Apprentice*. The graphics are all rendered in 3D, plus some snazzy morphing, and are very striking.



In this demo version you have three puzzling levels to complete by collecting a number of objects in each level. In this version the objects you have to collect are the flowers, mushrooms and flying mushrooms. You can't collect an object if you are above or below it, only from the left or right. Collectibles can't be squeezed or harmed by falling rocks and neither can the apprentice or his friend – magic is a wonderful thing.

You can push the ordinary looking rocks left and right, if they're not supported they will fall, and you can make the psychedelic ones disappear. Your little furry friend who morphs into a block will be required to complete the levels he appears on. Every level can be completed – I know because I've done them.

In the game, the following keys are used

Z	Left
X	Right
P	Up
L	Down
G	In-game menu (see below)
SPACE	Change player (if a second one is available on the current level)

There are three options on the in-game menu: *Return to Desktop* is obvious; *Restart Level* is needed at those unfortunate times when you know you've done something wrong and the level cannot be completed, you can use it as many times as you want; *Continue* if you accidentally pressed G.

There is further information about the game on the disc and it's price is currently £14.95.

Requirements

The game has been provided on an HD disc, compressed using SparkFS. A copy of SparkPlug is provided to de-archive it – ArcFS couldn't provide sufficient compression to get the demo onto this disc.

I'm sorry to say that there is no option for DD discs because the program can only run on a Risc PC, A7000+ or better.

Special Mode Definition Files are provided for AKF60 and AKF85 monitors, details of how to include them in your standard monitor definition files is included in the archive.

Regular items

- The 3D programming demo software
- Mike Cook's portable communication software plus the playable demonstration (Risc PC, A7000+ only)
- All the *INFO programs

Freeware

- The WimpBasic modules to run those WimpBasic programs
- Updates to Paul Johnson's programs

Shareware

- Yet another file finder? This one's pretty good
- Office'98, another way to organise yourself

Acorn User Survey 1998

It's that time of the year again, the *Acorn User* Survey program is on the disc and we'd like you to fill in the answers and send the answer file to us, either on disc or via e-mail – details in the survey program itself.

We use the results of the survey anonymously to help determine what we should cover in the magazine in the coming year, based on your likes and dislikes. The more answers we get, the more accurately we can judge.

This year we have a new improved version of the program, a long-standing problem that had to do with radio buttons has been fixed and there's a brand-new write-in feature where you can put down some general thoughts about the magazine.

Don't delay, send back your answers today.

Disc information

The software on these discs has been compressed using *ArcFS 2* from VTi, and are opened by running a copy of *ArcFS* then double-clicking on the archive to open it. There is a copy of *ArcFS* on each disc.

Most software will run straight from the archive, but some programs may need to be copied out of the archive before being run, uncompressing them in the process. Any program that saves a file to disc, for instance, will be unable to do so into the archives on the disc

Faulty disc?

If your disc is faulty, test whether it will verify by clicking with Menu on the floppy drive icon and choosing Verify.

If it fails to verify or is physically damaged you should return it to *TIB, TIB House, 11 Edward Street, Bradford, Yorkshire BD4 7BH.* If it verifies successfully return it to the *Acorn User* editorial office at the usual address.

The *Acorn User* cover discs have been checked for viruses using *Killer* version 2.800 from Pineapple Software

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Main features of the Sony 32 Speed

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- Ultra DMA (Mode 2) Burst data transfer rate of 33MB/s.
- Low power consumption thanks to CAV technology.

Umax Astra 610S **£129**

The Umax Astra 610S Scanner, a compact & affordable A4 SCSI 30-Bit colour scanner. It's a great scanner for adding sizzle into your everyday documents. Use it for design, creating exciting web sites or just for fun creative work!

Power-tec SCSI Card Required

Main features of the Umax Astra 610S

- Superior image quality with 30-bit colour.
- Compact size fits almost any desktop.
- Colour cathode lamp provides longer bulb life and dust free optics.

Twain David Pilling Image Master and Twain Drivers: **£30**

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Acorn World '98

Celebrating Acorn Computer's 20th birthday

> *"Acorn World is a dynamic and continually developing event which is the highlight of the Acorn year. It is a showcase for all that is great and good about Acorn products and the associated software and peripherals. It has traditionally been a coming together of the Acorn community and, while this is to be encouraged, it is also our best opportunity for introducing new users to the platform and ensuring future growth."*
>
> Chris Cox, Vice President, Workstations Business Unit, Acorn Computers Ltd

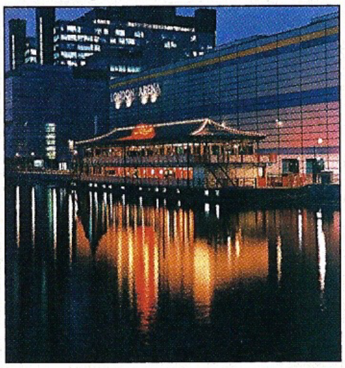
Acorn World '98, London Arena, Docklands, 16 – 18th October, 1998

Acorn Computers Ltd. are pleased to announce that the annual Acorn World exhibition is going to be held at the London Arena from 16 – 18th October, 1998.

London Arena – access could not be easier

Since taking over the organising of the event, Acorn have been looking for a new and vibrant venue that will become the home of the main event in the Acorn calendar well into the next millennium. London Arena is one of London's most modern and exciting venues and has already played host to a number of successful IT and technological events in its short history. With its excellent location at the heart of London's Docklands and high levels of investment, both in the building and the local transport infrastructure, London Arena fulfils all of the criteria that Acorn were looking for.

The Docklands Light Railway is by far the easiest way of getting to London Arena combining an enjoyable 15 minute journey form Bank station through Canary Wharf and the old London docks with views across to Greenwich and the Millennium Dome. London Arena has its own station directly outside the main entrance and therefore could not be easier to get to. The DLR also connects with the London Underground network at Tower Gateway, Stratford and Bow Church and is just a short walk for Greenwich through the foot tunnel under the Thames to Island Gardens.



London Arena – impressive new setting for Acorn World '98

LONDON ARENA
Exhibition Centre

Acorn World '98 – main sponsors & supporters

Along with Xemplar once again co-sponsoring the event, and in particular the Friday 'Education Day', the main supporters of Acorn World '98 fall into three categories:

Acorn Press
Acorn User
will be once again fulfilling this role and October 1998 will also see the publication of their 200th issue. Watch out for some very special joint promotions and competitions celebrating two incredible milestones!

Acorn Community
Argo Interactive Ltd are one of the main supporters for the first time this year. This is chiefly in recognition of the tremendous support that Argo give to the Acorn marketplace as a whole, and in particular their large presence at the last few Acorn World exhibitions.

National Press
The Daily Telegraph and *Electronic Telegraph* are assuming the mantle of National Media Supporter in 1998 after three years of support from *The Guardian*. Apart from much larger circulation and readership levels it was decided that this particular publication fitted the overall profile of Acorn World better than any of the other quality broadsheets.

Acorn World '98

Visitor Attractions

As 1998 is the 20th birthday of Acorn Computers, the aim is to make Acorn World '98 a true spectacle and a real day out for all visitors. Attractions that are planned include:

• Themed Demonstration Areas

These will focus on specific interest areas, including Music, DTP, Graphics, Home Learning and Business Applications and will provide an opportunity for visitors to see the how the latest machines and software titles perform in a relaxed and non-pressured environment.

• Acorn Computers Museum

To mark the achievements and technological advances made by Acorn over the last 20 years, it is planned that a 'museum' will be set up at Acorn World '98 which will hopefully include a working model of every computer made by Acorn since 1978. There will be some rare and unusual exhibits and it is sure to generate an abundance of curiosity and interest among visitors to the show.

• The 'Home and Classroom of the Future'

It is planned that the Acorn stand itself will be themed around how Acorn and Acorn licensed technology ('Acorn at Heart') products could shape the living and educational environments of the future. It is hoped that this will enable visitors to see some of the exciting products that are being created by our Technology Partners for the first time. Much has been heard of these partners, but to date not much in the way of actual product has been on show and it is hoped that this year will see many of their exciting developments and products at Acorn World.

Acorn World '97 - The Acorn stand awash with visitors! Scenes like this will be repeated at Acorn World '98, and wider aisles are already being planned in.

• Cyber Village

To be run in conjunction with Argo Interactive Ltd. This is planned as an area where visitors will be able to learn more about how to use the Internet for maximising business and pleasure interests while enjoying a cup of tea or coffee.

• Developer's Village

In response to requests for more software developers to exhibit at Acorn World, this year's event will see a developer's village for the first time. It is intended that this will become a regular feature of the exhibition, encouraging many more companies who are developing exciting software for the Acorn platform to demonstrate their products who may not have been able to at previous exhibitions.

• Acornsoft Village

In addition to the Developer's Village, this area will be designated to those developers who are producing titles for the Acornsoft label and will include many new and exciting programs. It is also hoped that a new compilation of many of the classic BBC and early Acorn games will be released either at or prior to the show.

• 'Revelations' demo' party

This will be a chance for visitors to meet the demo crews, talk coding and design, and check out all the latest releases running on everything from A3010s to StrongARM Risc PCs. The highlight of the party will be the demo competition which will take place in the theatre.

• Games arcade

Acorn World '98 will see the return of this popular feature and will provide visitors with the opportunity to sample all of the latest games available on the Acorn platform – there may well be one or two surprises!

Further details will be released nearer the time …

"As Acorn and its enthusiast market enters a new era of expansion and development the Acorn User team are delighted to be able to support the show that provides a classic showcase for what's exciting and what's best from Acorn and its supporters."

Steve Turnbull

Editor, Acorn User

"ArgoNet are committed to providing the best, easiest to use and most comprehensive Internet service for Acorn users. Our investment in the prestigious Acorn World exhibition, both as a main supporter and major exhibitor, provides an unrivalled opportunity for us to reinforce and build on our success in this key market."

Ian Goodall

Sales & Marketing Director

Argo Interactive Group plc

Yet more good news....!

As well as being the most exciting day out in the Acorn events calendar, the ticket prices will be remaining the same as last year's exhibition. This means that an adult ticket costing as little as six pounds will open the doors to all of the above and more - a fantastic day out at an affordable price!

Acorn World '98 is going to be the busiest, most fun-filled and exciting exhibition for many years and will go a long way to demonstrating that Acorn Computers are going to be producing world-beating technology solutions well into the next millennium!

Further info

For information regarding exhibiting at Acorn World '98 please contact:

Jonathan Cooke, Events Coordinator, Acorn Computers Ltd, 645 Newmarket Road, Cambridge CB5 8PB

Tel: 01223-725297 Fax: 01223-725435 E-mail: jcooke@acorn.com

All that's fit to print *–part 1*

Mike Tomkinson (AU Business editor) kicks the series off, looking at four printers to see how suitable they would be in the SOHO

Over the next four months *Acorn User* will be taking a look at a number of printers on the market – we'll be giving you information on a mix of printer types, predominantly laser and inkjet technologies, from a number of manufacturers. The series will, on alternate months, look at printers more suited to the SOHO (small office/home office) environment, alternating with printers claiming to give high quality output for those requiring good quality colour prints.

Hewlett Packard DeskJet 670C

With their successful DeskJet range, HP obviously decided that their formula needed no major changes only tweaks. I'm sure they'd disagree, but on opening this printer's box I hardly needed the label on the front of the printer to know it was a HP. It had obvious lineage with the classic HP DeskJet 500 and followed the tried and tested formula of a front loading, horizontal paper feed to a top eject path.

In fact all that was missing was the smoked perspex cover which appears to have been ditched somewhere along the way from 500 to 670. One feature I liked is the front panel, or lack of one. No science station from the bridge of the starship Enterprise just a recessed on/off button and a paperfeed/resume button.

Very good colour but no envelopes from the 670C

The big C indicates colour and one of its best features is that a colour cartridge sits permanently in the printer alongside a black cartridge. No muddy, grey slightly off-black from this printer. The cartridges are those lovely big chunky HP types which seem to last forever, which is good as the economics of inkjet printing can seem pretty daunting when you have to fork out for new cartridges. To get at the cartridge holder to change it you simply lift up the top flap and they are automatically moved to the middle of the carriage. No messing – very neat but of course you must have the printer plugged in.

The DeskJet 670C has a large footprint – which is another way of saying you need a large desk for it to sit on. By comparison with my usual companion of Caxton, a Canon BJC-240, the HP seemed enormous but not as tall. Of course the different paper feed method on the Canon (near vertical) helps reduce the footprint.

I performed a quick test print just to prove that all was working and then a search through the Printing directory on my hard disc to find the required Printer Definition File. No point looking in the box – all this contained were some discs for Windows, whatever that is? Yes, I know some people out there have Risc PCs but *Acorn User* were not falling for the trick of providing me with one just to test that a printer which should work with Windows 3.1/95 actually did.

So, my trusty A7000+ with *Printers 1.54* had better get on with the job. No PDF in Printing for a 670C but there is one for the 660C. Working on the principle that these things really are only tweaks, I installed that and away I went. Absolutely no problems with this and it illustrates the point that printers may be tweaked but PDFs are fairly constant. Print quality can be set via the Printer Control from EconoFast to Best. None of this dots per inch rubbish, if you want best quality you pick Best. By the way, all this stuff takes about 85 pages of closely typed print in the manual to explain for the poor Windows users.

One thing I really liked about this model is that you do not have to change the cartridge or the printer settings for colour. It just knows what is black and what is colour. So much easier than my Canon. However, I make extensive use of A4 envelopes on which I want addresses printing. Obviously to accommodate A4 paper the envelopes are slightly bigger (230mm by 330mm). The HP printer could not cope with these whereas the Canon can by moving the paper holder further to the left. The HP is a true A4 printer – it can handle smaller sizes of paper and envelopes but nothing bigger. Actually it will handle letter/legal paper which is slightly wider than A4 – I suppose someone might use it, probably in the USA.

The all important print quality was just that – quality. The black was pin sharp and the colours vibrant. I was not using special paper, just plain 80 gsm photocopying stock. Special glossy papers for inkjets tend to give really excellent results but at a price. To test this I used special glossy paper and the results were excellent. At this price point and with colour laser printers still costing over £2000 you cannot beat a colour inkjet. The print quality on special paper (with no ink bleeding which you tend to get on ordinary photocopying stock) is almost indistinguishable from a laser copy anyway. The printer would also be ideal for colour OHPs or transparencies as the manual calls them.

Conclusion

If your desk is big enough this printer is great and a testament to how far colour inkjets have come in the last few years. For home or very small office, with very big desks, this printer is just about ideal.

It would also be suitable for previewing colour copies prior to professional printing. For schools or other areas where it might take a little hammer I would be more circumspect as it was a little bit too plasticky for my liking and the paper return unit detaches far too easily from the main body of the printer. Also the permanent installation of a colour cartridge in those circumstances might make it expensive to run.

★★★★★ Star Rating ★★★★★	
Ease of Use/Setup	★★★★
Performance	★★★★★
Features	★★★★
Value for Money	★★★★★
Overall	★★★★★

HP DeskJet 690C

I experienced a strange feeling of deja vu on opening this box. Apart from the badge on the front of the printer telling me it was a 690C, it looked exactly like a 670C. Actually HP have changed the colour of the paper length adjuster from blue to purple.

Again I stuck with the HP DeskJet 660C printer driver for the want of anything more recent. A few test prints revealed that once again this printer driver works for the 690C. Acorn users can therefore purchase this printer with the complete confidence that it will work in both black and colour with their computers.

Acorn printer drivers can look a little bereft of features if you look in the manual and see what Windows users can expect in the way of on-screen help. It is a simple fact that Acorn drivers work but you cannot expect anything fancy from them – at least for the majority of modern printers.

This is well-illustrated by the fact that the 690C uses a HP Photo cartridge and HP Photo Paper to produce photo-real prints. This cartridge replaces the black and is obviously best used when printing photographs scanned or otherwise captured onto the computer. Needless to say, this feature is not supported by the Acorn DJ660C printer driver.

This illustrates another very important fact for Acorn users – the printer you buy may have features which you cannot take advantage of because the software does not exist on the Acorn platform. Some of the printers I will be reviewing can also be used as scanners but not on the Acorn side. Of course those of you with Risc PCs can always switch across to your PC cards running Windows 95 and hope for the best.

In all ways the HP DeskJet 690C is as good as the 670C. The print quality is excellent both in pure black and colour printing. The separate cartridges for black and colour make the printer about as economical and easy-to-use as any other colour inkjet.

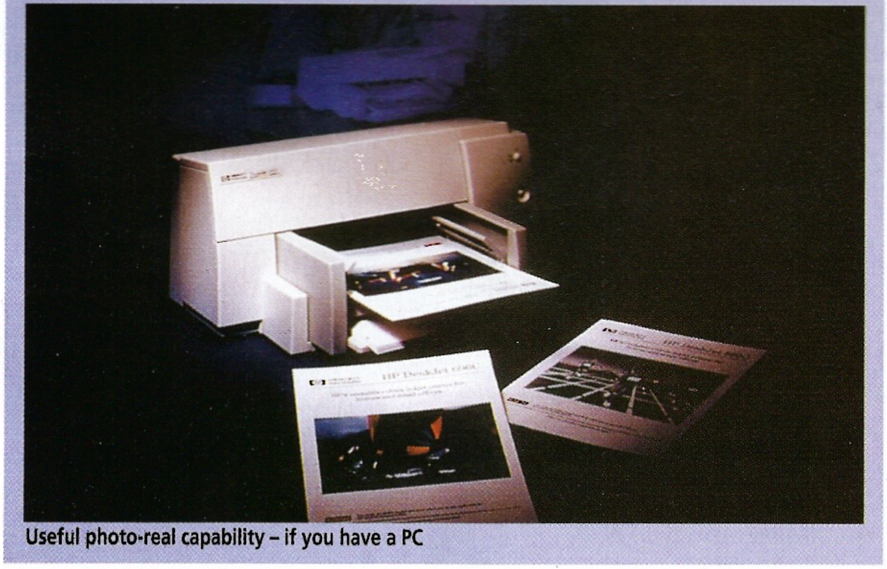
The same criticism of the footprint exists and once again the removable paper out tray gives a slightly flimsy feel to the front end of the printer.

Quite frankly it depends on whether you use your printer extensively on the PC side of a Risc PC as to whether you would buy a 670C or a 690C. On a pure Acorn (A5000, A7000, A7000+ etc) the extra photo-real facilities of the 690C would be wasted. Having said that you might find it difficult to source a 670C as PC printer suppliers switch to stocking the 690C with its additional features.

Conclusion

Either way, both these HP printers would get my Best Buy award. If that seems like sitting on the fence, I'm sorry but it depends entirely on the additional features that your Acorn computer will support and which you will actually use. Would I swap either one for my Canon? No has to be the answer as the lack of envelope size flexibility outweighs the colour cartridge swapping problem.

★★★★★ Star Rating ★★★★★	
Ease of Use/Setup	★★★★
Performance	★★★★★
Features	★★★★★
Value for Money	★★★★
Overall	★★★★



Useful photo-real capability – if you have a PC

HP LaserJet 6L

Rather than limiting this series of reviews to inkjet printers we intend to offer a look at the main alternative technology – the laser printer. The first of these is also from the Hewlett Packard range – the LaserJet 6L. As you may know, the technology of a laser printer is more akin to a photocopier – electrostatically charged drum picking up toner which is then fused onto the paper. No ink or ink cartridges involved, just a toner cartridge.

For this reason, low-end laser printers are usually more costly to buy (although not by much these days), but generally much more economical to run. For example, the quoted duty cycle of this particular printer was given as 6000 single-sided pages per month. Enough for a smallish business or office dealing only with general correspondence, invoices and so on.

The L on 6L stands for Lite and gives you a good indication that this printer is not a heavy duty, high capacity printer of the type usually found on networks. Such printers exist but are beyond the scope of most businesses running on Acorns. Schools with large, distributed networks would find such printers useful, if only to keep a check on who is printing what – but at a price.

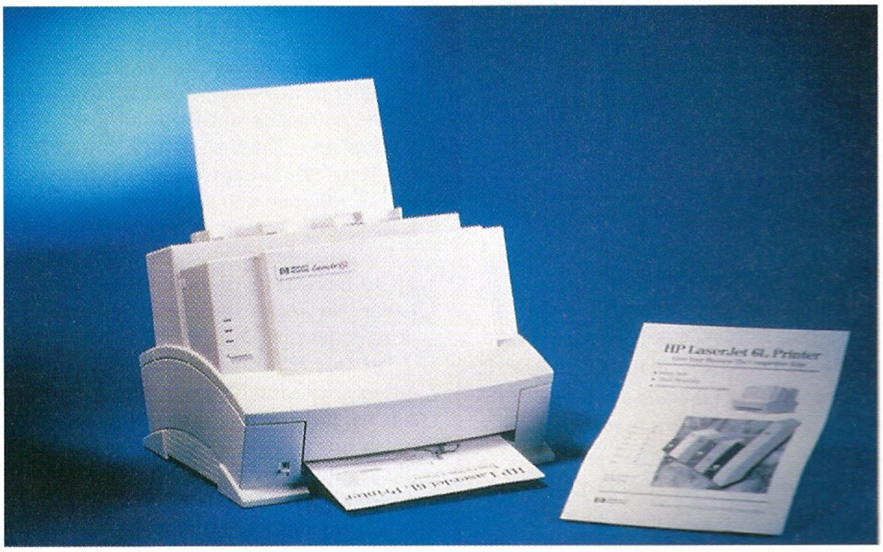
The 6 of 6L indicates six pages per minute but I found that it seemed to take a long time to get the page to the printer and that was with a generous printerbuffer setting. With laser printers this can usually be solved by the addition of more memory – at more cost. It is important to ensure that if you feel you may need more printer memory that you buy a printer capable of being upgraded using relatively cheap memory. This one required DRAM memory cards, not cheap 70 pin SIMMS.

This printer actually has a smaller footprint that the HP inkjets as the paper is fed almost horizontally and can be set to eject in the same way. The search for a suitable printer driver was again quite easy – I used the HP LaserJet 4 driver. I was therefore disappointed with the first text test as the quality was low and the text quite spidery. At this point I checked and found driver defaulted to 300dpi – problem solved as I switched it to 600dpi (300dpi would be suitable for drafts). Having said that I am sure we can all remember when 24-pin dot matrix printers were suitable for almost everything with their NLQ.

Print quality was very good at that setting – clean, clear and crisp with non of the wrinkling sometimes associated with the drying ink of inkjets. Paper curl was equally not noticeable. Apart from that and the assumed increase in economy associated with laser printers I am not sure I would recommend this printer. It fell between the stools of economy versus features. The print quality was not that good that I would feel it better to have that rather than the inherent flexibility of a colour inkjet.

➤

Printers



Stylish but lacking real guts

➤ Once again it comes down to features you use in combination with your computer. If you never ever use colour, but require high quality black-only output then this is a good printer for the SOHO (Small Office, Home Office) market. By the way, this printer would also not accept the envelopes I used despite having a special feeding slot on top for envelopes.

Conclusion

I was not convinced that this printer offered enough clear advantages over a good colour inkjet. If I was going for a laser printer I would want more features and more easily expandable memory.

★★★★★ Star Rating ★★★★★	
Ease of Use/Setup	★★★
Performance	★★★★
Features	★★★
Value for Money	★★
Overall	★★

Canon BJC-80

The final printer of this month is another inkjet, this time from Canon. The BJC-80 owes its parentage to a line that goes back to the original BJ-10. For those of you who can remember that printer it was originally marketed for use with portables – indeed you could run it from batteries with a special battery holder. In fact, the BJC-80 can be used with an optional portable kit giving a claimed 200-page battery life for anywhere printing. On the subject of options, this printer can have a scanner cartridge attached to turn it into a 360dpi colour sheetfed scanner. Neither of these more exotic options was utilised in this review.

This printer certainly has the smallest footprint, indeed you might not notice it at all – it is tiny. Paper feeds at the top and appears at the bottom.

The text quality is not as good as from the Hewlett Packards and nor would you expect it be. This printer is designed to serve an entirely different market. For a start there is its size – designed to complement an area foreign to most Acorn users – the portable market. As I write this, speculation is rife about an new Acorn portable but at the moment that is all it is – speculation.

Secondly the printer has an IrDA (infra red) port for cordless connection to a computer. Again these are increasingly common on PC portables and handhelds – Acorn users may have seen one on the Apple e-Mate, marketed by Xemplar. The one on the BJC-80 can be moved out to 75° from the printer for ease of alignment with the computer IrDA port.

Small is beautiful – but only if you're printing on the move

What about printer drivers? Again, the printing directory on my hard disc revealed a driver for a BJC-70, so applying my usual principle of printer drivers I opted for that driver and was not disappointed. Having said that, this was the only printer I looked at this month which seemed to have a particular dislike of being used via a Zip drive using the Argo software. It worked fine if directly connected to the computer but would stop and hang if used with the Zip.

As you'll realise by now, the C in BJC-80 indicates colour. On this printer you have to change the black cartridge for a smaller black cartridge and a colour cartridge. These cartridges sit inside their own special holders. At least you do not have to tell the driver to print in colour on the machine, unlike on my BJC-210. The quality of the colour print was perhaps surprisingly, very good – given the size of the printer and the minute colour/black cartridges.

Conclusion

Very strictly for the portable market and only then for those truly on the move with a need to print and no other alternative. This makes the printer of very limited use in the Acorn arena unless the new portable finally arrives or you class an e-Mate as part of the Acorn range. The speed of the printer is another major drawback, but perhaps its very small size might find a niche market. Altogether it had a very limited appeal to me.

★★★★★ Star Rating ★★★★★	
Ease of Use/Setup	★★
Performance	★★
Features	★★
Value for Money	★★
Overall	★

Contact details

Hewlett Packard		Tel: 0990-474747
RRP as of April 1998:		
HP 670C	£154 (ex VAT)	
HP 690C+	£190 (ex VAT)	
HP 6L	£310 (ex VAT)	
Canon		Tel: 0121-680 8062
BJC-80	£199 (ex VAT)	

Availability: Contact your local dealer

Printer Definition Files:

Cybervillage site is a good source of up-to-date info and contains links to the FTP site: http://www.cybervillage.co.uk/acorn

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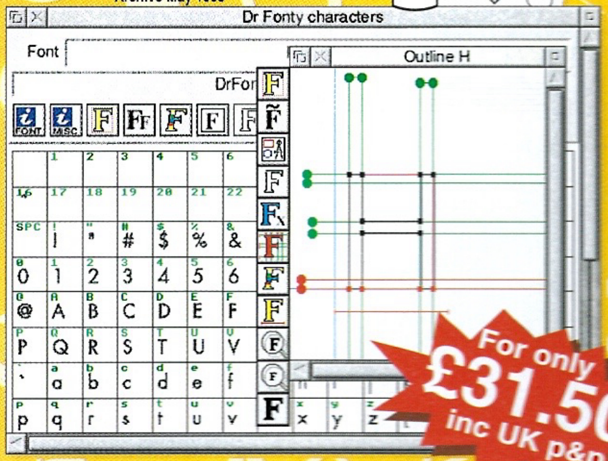
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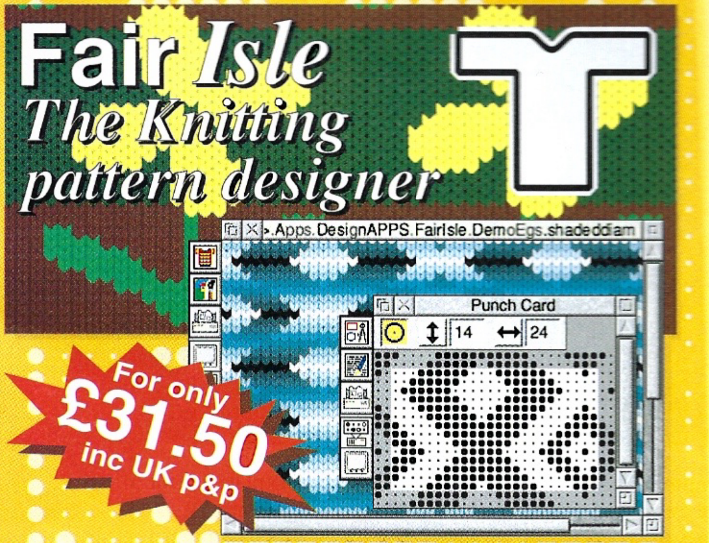
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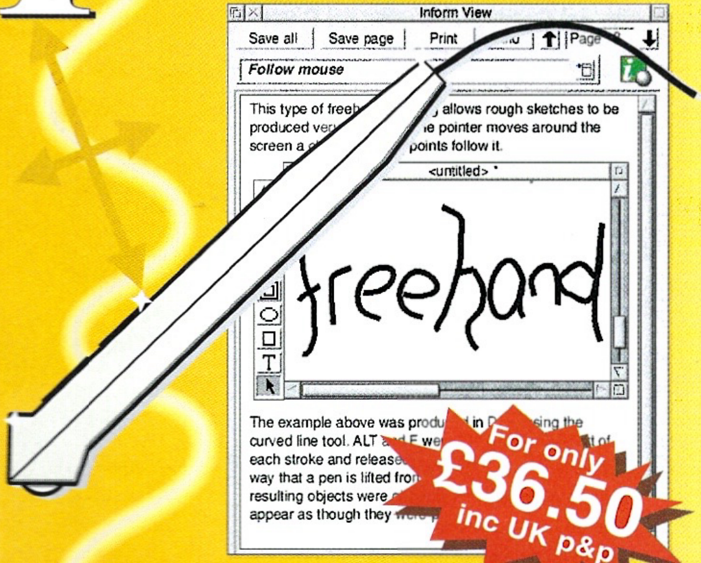
Inform View
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freehand

This type of freeh… allows rough sketches to be produced ver… …e pointer moves around the screen a… …points follow it.

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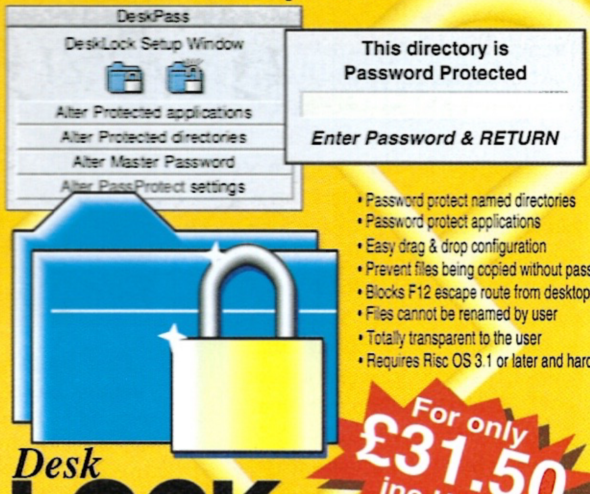
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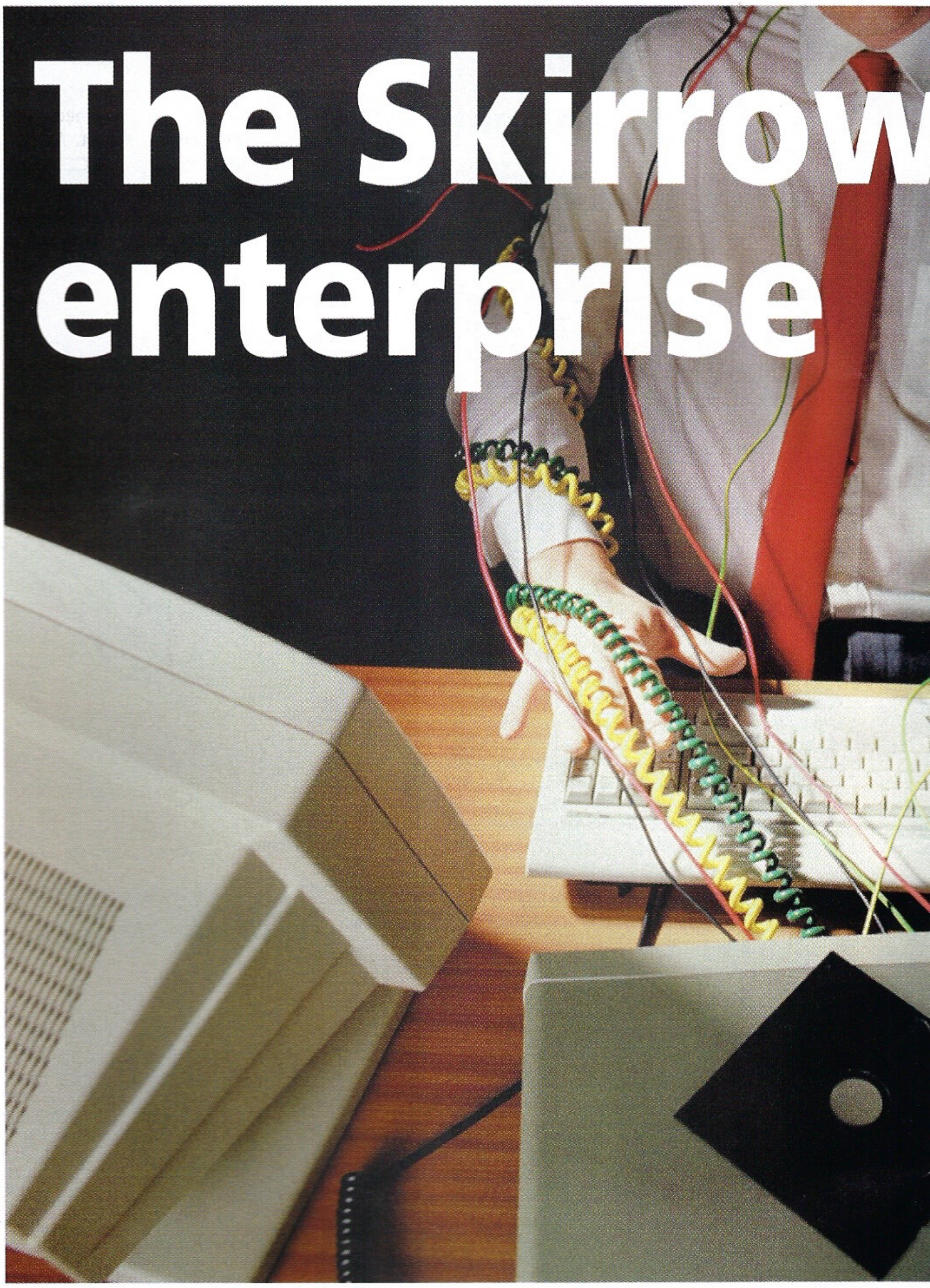
The Skirrow enterprise



I've always wanted to make my computer more like the computers I saw on *Star Trek* in my childhood (see box). A couple of years ago I discovered the comp.home.automation newsgroup on the Internet and read about people who could phone up their computer from the comfort of their armchair via their internal house telephone exchange. They could say, 'Computer, gas-fire on, curtains close' and the computer would respond by turning the gas-fire on and closing the curtains. Well, most of the time anyway. Sometimes it might open the garage door and turn the fridge off, but these are mere technicalities... Spurred on by the realisation that there were others like me, I developed my own Acorn-based system. At present it is more of an information system rather than a control system, but it is still growing.

What does it do?

My home information system verbally announces who is calling when the telephone rings, announces when one of my favourite television or radio programmes is about to start and displays useful information on channel 9 of every TV in the house which can include a customised TV listing, a list of the last 10 telephone calls, the FTSE-100 index, the Acorn share price and even whether our cat is inside or out...

For this to work well I leave my computer turned on all the time (see box opposite) but this is quite practical and probably stresses the electronics less than if it was turned on and off several times a day. I use a 50Mb StrongARM Risc PC, but a humble A310 would be able to run the home information system just as well and the computer can still be used normally while all this is running. The computer is fitted with a Computer Concepts TV Tuner/Teletext card to grab teletext data

Star Trek computers

I grew up in the 1970s, completely enthralled by *Star Trek* long before I'd ever seen a real computer or even a programmable calculator. A few years later I was very excited by our school getting its first computer – a Commodore Pet with 4K of memory – and although it fascinated me, it never quite lived up to my idea of what a computer should be like.

A few years later I bought my own BBC model B and later upgraded to an A420 and then an A5000. I would proudly show this off and demonstrate the amazing graphics and games but I was always secretly disappointed with its limitations and it never lived up to my earlier expectations.

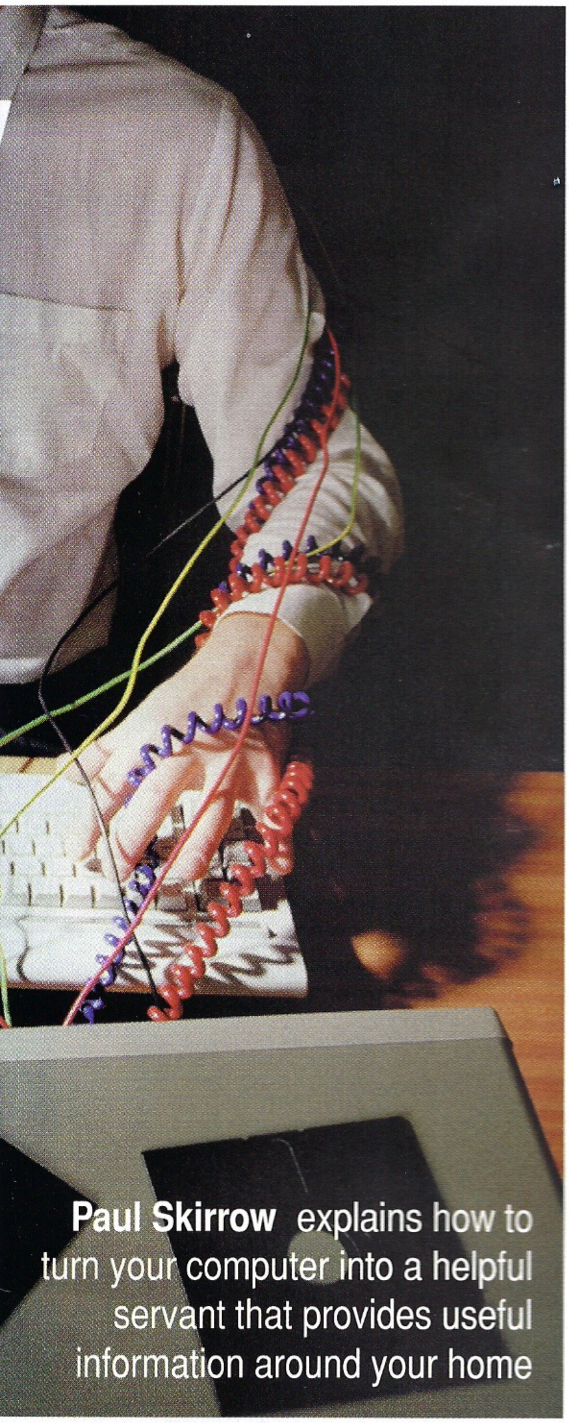
Sure it could play chess just like the *Star Trek* computer, but just try asking it a meaningful question or whether the cat was in or out and it would just flash its cursor with no hint of understanding. It had no concept of what was going on in the world around it and never knew who was telephoning me (Captain Kirk never had to answer by saying 'Good afternoon, Starship Enterprise, NCC1701' – he always knew who he was going to talk to).

The hype over multimedia raised my interest for a while, but even that was a disappointment. It let me watch short, fuzzy video clips in a small window, but the computer still couldn't control my hi-fi or tell me when my favourite TV programme was about to start.

The Internet really is a step towards the *Star Trek* dream. It can be used to communicate with people the other side of the world and finally I can ask my computer a question and get a meaningful answer.

Just go to Alta Vista (http://altavista.digital.com) and type 'When was Shakespeare born?' and within a couple of seconds it will tell you that Shakespeare was born in 1564. Most search engines work best if you use their special syntax to emphasise the importance of different words and phrases in the search, but they can cope quite well with questions in plain English.

Using the enormous on-line databases and powerful language translation systems really does make a computer feel more like something from the Enterprise.



Paul Skirrow explains how to turn your computer into a helpful servant that provides useful information around your home

and generate the information display and an Octopus Systems Caller Display unit which connects to the serial port.

Speak out

A home information system would be of little use if you had to walk into the computer room and look at the computer screen. There are two ways in which my system communicates – firstly I use Jonathon Duddington's excellent *Speak* program, which is a very intelligible speech synthesiser.

It works well with a variety of applications and is surprisingly good at pronouncing surnames and place names. It has a customisable dictionary which can be used to specify how certain words should be pronounced – I've found that it works so well I've never needed to customise it. *Speak* works through the computer's standard sound system and I have some small mains-powered loudspeakers connected to the computer's headphone output. As well as being useful for playing music CDs these speakers are loud enough to be heard throughout the house, so when the computer speaks you can hear it wherever you are.

Remote display modulator

The computer also displays information on channel 9 of every TV set in the house, including one in the living room, the kitchen and the bedroom. This is achieved by using the RGB output on the Computer Concepts Teletext card (unfortunately the other teletext cards and adapters don't have this output).

The RGB output normally shows the same teletext information as is displayed on the screen when viewing teletext. Using the Octopus *Teletext+* software it can be made to generate a special information display which is quite unrelated to the teletext being received and the computer's normal display. It is effectively providing a special channel carrying useful information around the house – although it looks like a Teletext page it can be viewed on non-teletext TV sets.

The RGB output could be connected to a SCART input on a TV set, but not all of the TV sets have SCART input and it would be awkward laying RGB cables into every room. Instead I took the RGB output from the teletext card and connected it to a 'UHF/RF modulator' which converts the RGB signal into a UHF (Radio Frequency) signal and mixes it with the normal TV aerial feed. This is then connected to the aerial input of the TV sets.

Channel 9 of each TV can then be tuned in to the modulator's output, just like tuning a TV set into a video connected via the TV's aerial input. Figure I shows how the aerial leads are connected to enable the teletext RGB output and the computer's audio output to be modulated and mixed in witn the aerial signal which then feeds all the TV sets. I also use an amplifier to increase the signal strength from the aerial – this isn't necessary in strong signal areas.

There are several different modulators on the market but the ones I use can be tuned to avoid clashing with Channel 5 and video recorder outputs. They also have a sound input which allows the computer sound, including voice announcements, to be heard on every TV set by simply choosing channel 9.

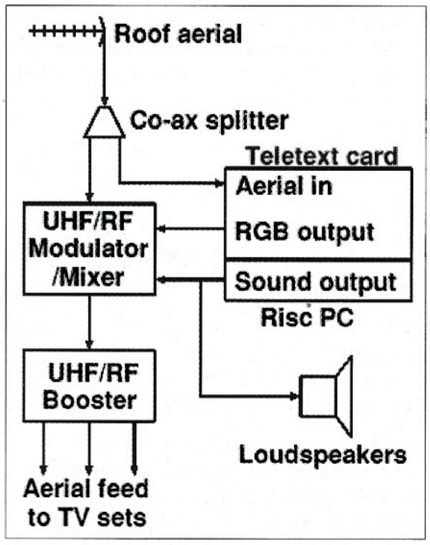


Fig I: Aerial Connections

As well as being used around a house this system could be used in a business or school to provide a useful rolling information display on monitors or television sets scattered throughout a building.

Teletext

Teletext is ideal for providing useful information which is regularly updated, although it is very slow when used on a TV set. My *Teletext+* software maintains an up-to-date copy of every page that I use regularly so it is much more convenient to use. A list of keywords (or phrases) can be entered to cover anything from hobbies, music interests, share prices, weather warnings and a list of favourite television and radio programmes. Whenever one of these is found on a teletext page it will appear in a special window and a simple click will display the full page that contained the keyword (see Fig II).

The alarm facility is very useful – if the keyword appears in a TV or Radio schedule then *Teletext+* will automatically set an alarm to go off a few minutes before the programme starts. At the alarm time the computer beeps loudly and then speaks the channel and the programme name several times. It even has a curfew ➤

Keep on running...

I use an Acorn StrongARM Risc PC and, apart from the odd upgrade, it hasn't been turned off since June 1994. The monitor is set to power down after 15 minutes if I forget to turn it off, and the hard disc automatically spins down after 15 minutes of inactivity. My Hewlett Packard Deskjet printer has a very low power standby mode and the only problem I've had was with the fan bearings in the computer's power supply which failed after three years of constant spinning.

Leaving the computer on has several advantages. I use *Arcfax* for receiving faxes on a dedicated fax line and I need this running overnight as I often receive international faxes from overseas. I use *Teletext+* for grabbing Teletext pages 24 hours a day so they are always available when I want them. It also means I never have to wait for the computer to start up if I want to use it.

Davyn Computers

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Keyboard	S/U	£20.00b
memory upgrade 2mb	new	£39.00a
memory upgrade 4mb	new	£65.00a
PCB	Refurb/Exch	£90.00d
Power Supply	Refurb/Exch	£30.00c
Power Supply	Refurb	£40.00c
A3010		
Floppy Drive	new	£89.00c
Keyboard	S/U	£20.00b
memory upgrade 1-2mb	new	£34.00a
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PCB	Refurb/Exch	£120.00d
A3020		
Floppy Drive	new	£89.00c
Keyboard	S/U	£20.00b
memory upgrade 2-4mb	new	£59.00a
PCB	Refurb/Exch	£120.00d
A4000		
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memory upgrade 2-4mb	new	£59.00a
PCB	Refurb/Exch	£120.00d
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A5000		
Floppy Drive	new	£99.00c
Keyboard inner	S/U	£20.00b
memory upgrade 2-4mb	new	£79.00a
PCB	Refurb/Exch	£139.00d
Power Supply	Refurb/Exch	£40.00c
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IDE/CD interface	new	£69.00c

These are just a small selection of new and refurbished spares ring for details

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BJC-620	(colour)	£249.00d
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Stylus 800	(colour)	£299.00d
Stylus 1520	(A3 colour)	£729.00d
Stylus ProXL+	(A3colour)	£649.00d
Hewlett Packard		
DeskJet 400	(colour)	£109.00d
DeskJet 690C	(colour)	£199.00d
LaserJet 6L	(Black)	£329.00d
Calligraph		
A4 1200 Laser	(black)	£1099.00d

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Colour'n Wear (2 white T Shirts + 4 transfer papers	£13.50b
Colour'n Wear	
(4 transfer papers only)	£9.00a
(10 transfer papers only)	£13.50b
Design & Print Mouse Mat	£4.00a
Design & Print Business Cards 10x8 A4 150g Perforated	£5.00a
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Shinho 15".28dot Digital FST	£199.00d

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RiscPC 1Mb VRAMsimtec	£59.00c
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Access+ Card	£139.00c
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Risc OS 3.7 Chips + Software	£58.00b
Second Slice *no PSU*	£90.00d
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Epson GTX5000 parallel	£199.00d
Epson GTX5000 scsi	£299.00d
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4.3gb SCSI 3.5" HD	£319.00c
Casio QV-11 inc.Software	£376.00d
Casio QV-100 inc.Software	£519.00d
Casio QV-Mains Adaptor	£15.00a
Lark Midi Sound-Sa.	£172.00c
Risc OS 3.1 Upgrade Chips	£30.00a
RiscTV *(Irlam)*	£295.00c
Teletext module for above	£45.00a
SCSI 16bit	£95.00c
SCSI 2 32bit (power-tec)	£158.00c
SCSI 3 32bit (power-tec)	£205.00c
TV Tuner + Teletext	£159.00c

All Upgrades fitted free if ordered with Computer else £18.00

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E.&.O.E 28th March 1998

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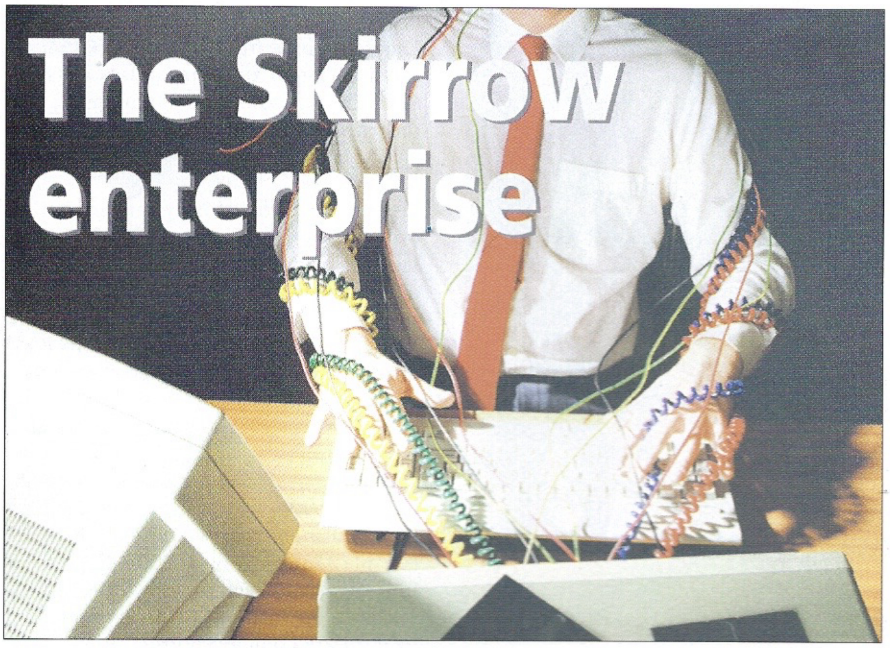
The Skirrow enterprise

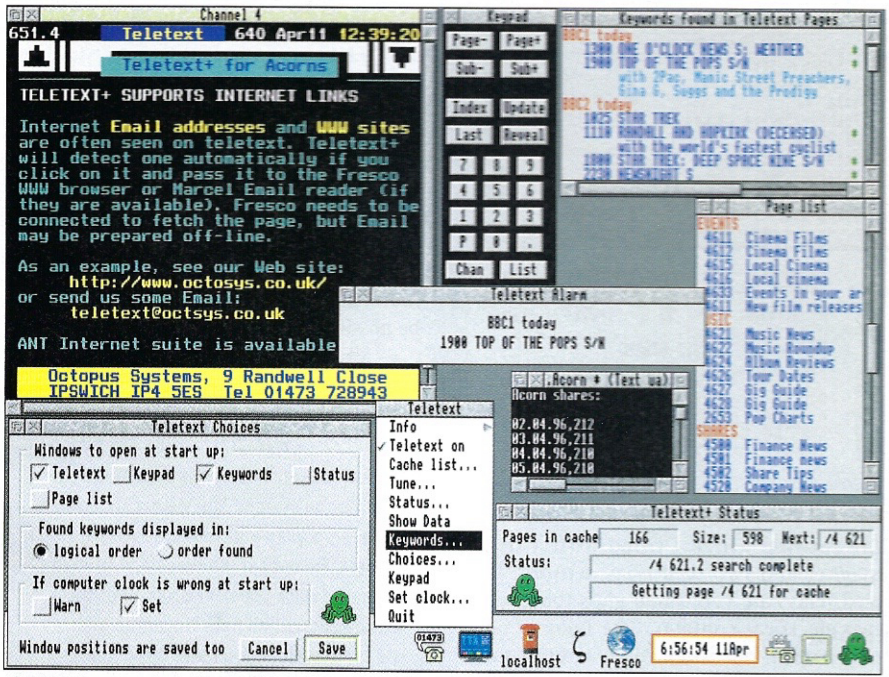


About the author

Paul Skirrow runs Octopus Systems who are Acorn dealers and developers in Ipswich, Suffolk and he wrote Teletext+ and Caller Display. As well as supplying Acorn computers and networks to small businesses, schools and enthusiasts, Paul develops custom software for other companies, including Acorn themselves and other Acorn software publishers.

Recent projects include network software for a ship training and simulation system running on a network of Risc PCs. Another was developing process control software for a local pet food factory – controlled by 40 Acorn computers – making over a hundred tons of dried pet food every hour. Next time you see some dog food or cat food in your local supermarket the chances are that it was made by an Acorn computer running Paul's software...

➤ so no matter how interesting the keyword that it finds on TV at 3am it doesn't make a sound.



Channel 4

651.4 Teletext 640 Apr11 12:39:20

Teletext+ for Acorns

TELETEXT+ SUPPORTS INTERNET LINKS

Internet Email addresses and WWW sites are often seen on teletext. Teletext+ will detect one automatically if you click on it and pass it to the Fresco WWW browser or Marcel Email reader (if they are available). Fresco needs to be connected to fetch the page, but Email may be prepared off-line.

As an example, see our Web site:
http://www.octosys.co.uk/
or send us some Email:
teletext@octsys.co.uk

ANT Internet suite is available

Octopus Systems, 9 Randwell Close
IPSWICH IP4 5ES Tel 01473 728943

Keywords Found in Teletext Pages

BBC1 today
1300 ONE O'CLOCK NEWS S; WEATHER
1900 TOP OF THE POPS S/W
with 2Pac, Manic Street Preachers, Gina G, Suggs and the Prodigy
BBC2 today
1025 STAR TREK
1110 RANDALL AND HOPKIRK (DECEASED)
with the world's fastest cyclist
1800 STAR TREK: DEEP SPACE NINE S/W
2230 NEWSNIGHT S

Page list

EVENTS
4611 Cinema Films
4612 Cinema Films
4615 Local Cinema
4616 Local cinema
4633 Events in your ar
4611 New film releases
USIC
4621 Music News
4622 Music Roundup
4624 Album Reviews
4626 Tour Dates
4627 Gig Guide
4628 Gig Guide
2653 Pop Charts
SHARES
4500 Finance News
4501 Finance news
4502 Share Tips
4520 Company News

Teletext Alarm

BBC1 today
1900 TOP OF THE POPS S/W

.Acorn * (Text ua)

Acorn shares:

02.04.96,212
03.04.96,211
04.04.96,210
05.04.96,210

Teletext Choices

Windows to open at start up:
☑ Teletext ☐ Keypad ☑ Keywords ☐ Status
☐ Page list

Found keywords displayed in:
● logical order ○ order found

If computer clock is wrong at start up:
☐ Warn ☑ Set

Window positions are saved too

Teletext+ Status

Pages in cache: 166 Size: 598 Next: /4 621

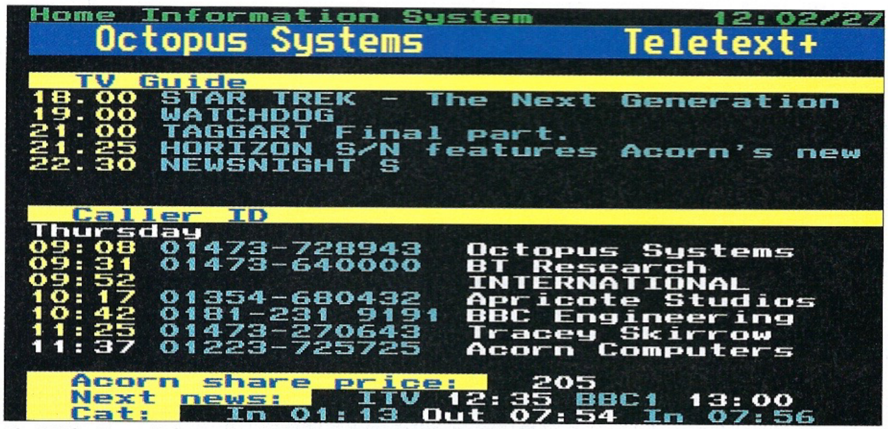
Status: /4 621.2 search complete

Getting page /4 621 for cache

Fig II: Teletext+ showing an alarm that was set automatically

As well as the alarm the programme details are also displayed on the special information display on channel 9 of all the TV sets (see Fig III). This shows a customised programme guide, listing all programmes that I like as well as any other programmes that contain keywords. For example, if the Horizon programme were to feature Acorn computers, then Teletext+ would pick up the Acorn keyword and alert me to the programme.

I am often surprised by the computer finding interesting programmes which I would otherwise have missed as well as reminding me of things I watch regularly. The computer can still be used normally to run other programs or view Teletext without affecting the special channel 9 display.



Home Information System 12:02/27

Octopus Systems Teletext+

TV Guide
18.00 STAR TREK - The Next Generation
19.00 WATCHDOG
21.00 TAGGART Final part.
21.25 HORIZON S/N features Acorn's new
22.30 NEWSNIGHT S

Caller ID
Thursday
09:08 01473-728943 Octopus Systems
09:31 01473-640000 BT Research
09:52 INTERNATIONAL
10:17 01354-680432 Apricote Studios
10:42 0181-231 9191 BBC Engineering
11:25 01473-270643 Tracey Skirrow
11:37 01223-725725 Acorn Computers

Acorn share price: 205
Next news: ITV 12:35 BBC1 13:00
Cat: In 01:13 Out 07:54 In 07:56

Fig III: The Home Information Display on Channel 9 of every TV

Caller Display

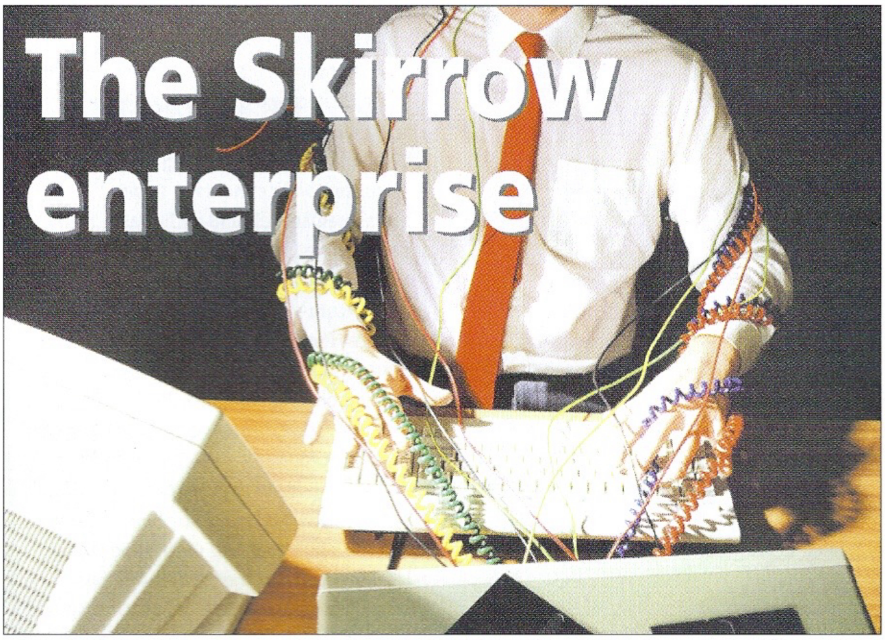
The Caller Display system enables you to know who is calling when the telephone rings. If you use BT you need to subscribe to the BT Caller Display service for around £4 per quarter although some telephone companies (Ionica, Cambridge Cable etc) offer it as standard.

A small Caller Display unit from Octopus Systems plugs into a standard telephone socket and passes Caller Display information on to the computer via its serial port. A Caller Display program running on the computer then displays the caller's number, and if the number is in your database it displays the caller's name too.

It will also stop a music CD if one is playing, show the town the call is from, mark the location on a map of the UK, and even display the distance in km or miles (see Fig IV). A click on another button will list all of the previous calls to or from that number, the system can also be configured to open account records (via *Prophet 3*) or notes from previous calls.

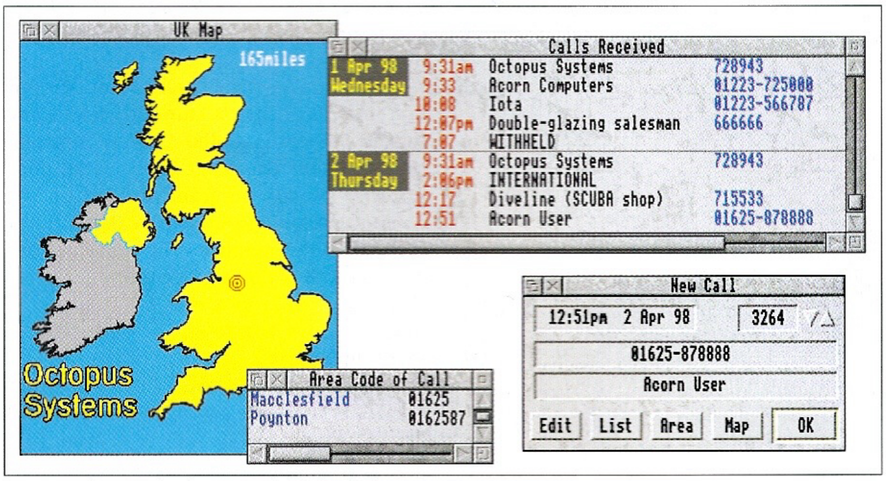
Caller Display also works with *Speak*, so it will wait until just after the first ring and then announce the name of the caller (or the place name if the number isn't already in its database). With the external loudspeakers this can be heard throughout the ➤

The Skirrow enterprise



house so you always know who is calling and you need never speak to a double-glazing salesman ever again.

Teletext+ links to the Caller Display software and picks up the caller's details which it then displays in the information display which can be seen on channel 9 of all the TV sets (Fig III).



```
1 Apr 98   9:31am  Octopus Systems          728943
Wednesday  9:33    Acorn Computers          01223-725000
           10:08   Iota                     01223-566787
           12:07pm Double-glazing salesman  666666
           7:07    WITHHELD
2 Apr 98   9:31am  Octopus Systems          728943
Thursday   2:06pm  INTERNATIONAL
           12:17   Diveline (SCUBA shop)    715533
           12:51   Acorn User               01625-878888
```

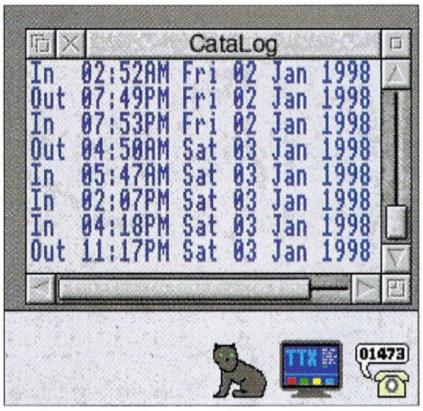
```
Macclesfield        01625
Poynton             0162587
```

```
12:51pm  2 Apr 98      3264
01625-878888
Acorn User
```

Fig IV: Caller Display (version 2) on the desktop

Frankenstein's monitor

As well as displaying a customised TV guide and a list of telephone calls the system can be extended to display all sorts of other useful information. For example, I run another cable from the computer to the cat flap which I fitted with a small magnet and two reed relay sensors. The reed relays are very small glass tubes with two electrical contacts. The relay is normally open, but when the magnet is near the reed relay, the relay closes and current can flow through it.



```
In  02:52AM Fri 02 Jan 1998
Out 07:49PM Fri 02 Jan 1998
In  07:53PM Fri 02 Jan 1998
Out 04:50AM Sat 03 Jan 1998
In  05:47AM Sat 03 Jan 1998
In  02:07PM Sat 03 Jan 1998
In  04:18PM Sat 03 Jan 1998
Out 11:17PM Sat 03 Jan 1998
```

Fig V: CataLog records cat flap events

I have connected these two relays to an input port on the computer (there are various ways of doing this but I actually use the two handshake input lines on a spare serial port) and I run a special programme, called *CataLog*, which monitors when the signal changes and determines whether the cat flap opened inwards or outwards.

The software can then work out whether our cat, *Frankenstein*, has entered or left via his cat flap. Whenever it sees a 'cat flap event' it logs it in a disc file, displays it in a scrolling window (Fig V) and also sends a message to *Teletext+* which is displayed on the bottom line of the channel 9 information channel on every TV set (Fig III). This means that we can immediately see whether Frankenstein is in or out and even monitor how much time he spends outside. Since *Frankenstein* is an 8Kg monster on a diet this can be quite useful.

The future

The potential for this system is limited only by the imagination. The reed relay sensors could be used to monitor any door or window and used as an alarm system or simply for greeting me when I enter the house. For example, when the front door opens the computer might greet me with, 'Hello master, you have had three phone calls, *Frankenstein* is outside and *Star Trek* is on at 6pm'...

I also plan to fit loudspeakers throughout the house so the speech messages can be heard more clearly and also so that I can play music from a 200 CD jukebox into any room. Each room will then be fitted with an infrared transceiver and its own infrared remote control. Another program on the computer will pick up infrared commands from each infrared handset and control the CD jukebox via another infrared transceiver.

From any room I will then be able to press a button to make the computer play any track from any CD, set an alarm to wake me up, play my latest telephone messages or request the weather forecast or news headlines. The computer will then respond either by speaking or by displaying prompts and requested information on the house's information channel.

Sadly, the transporters and the holodeck are a little more tricky at the moment but who knows what will be possible with a Risc PC 2... AU

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Tel: 01473 728943
Email: sales@octosys.co.uk
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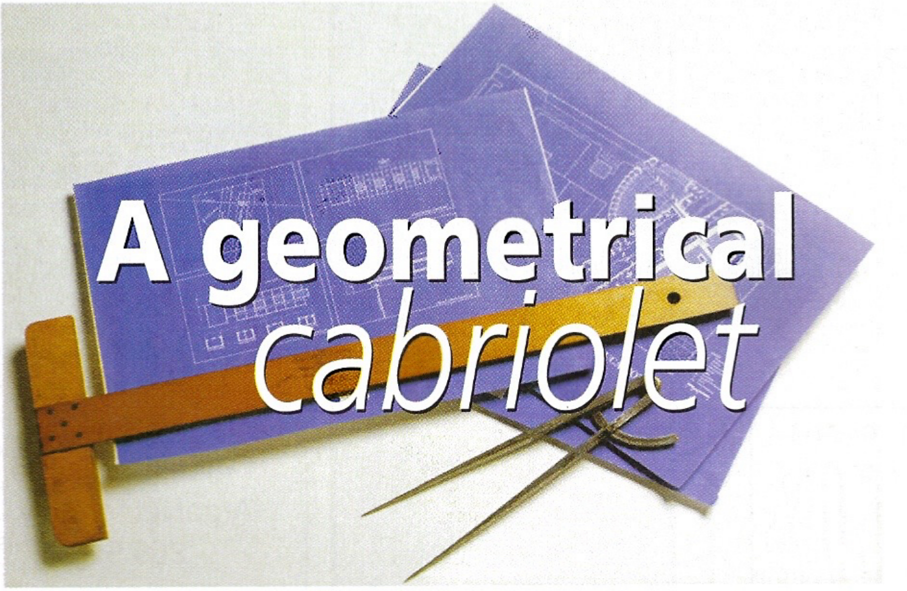


A geometrical cabriolet

Struggling with geometry? **Mark Taylor** takes a look at a program that could help

Although geometry can be fun for some, others may not be quite as enthusiastic and find it rather time-consuming. Producing worksheets is neither quick or easy – even the simplest of diagrams take a long time to produce if they need to be accurate.

Enter *Cabriolet* from Murklesoft. Described as a dynamic geometry program, it is designed to make studying geometry easier. The program allows you to draw diagrams quickly and accurately and, more importantly, enables you to study the effects of moving points and seeing how the diagram will move within the constraints of which it was created.

Geometrical designs

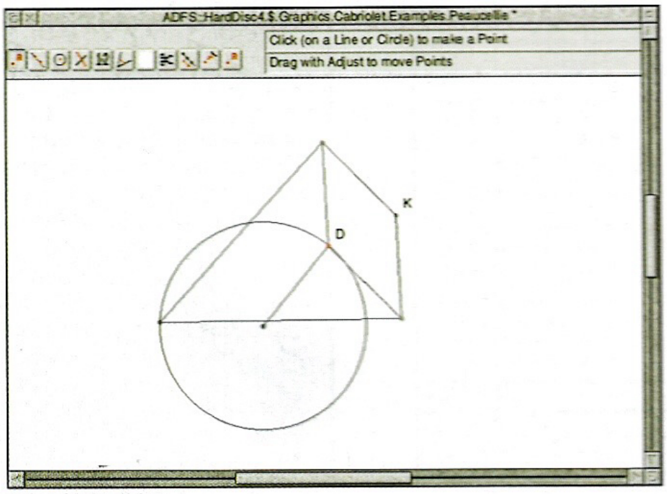
Once the program is loaded, clicking on the iconbar brings up a single window with a toolbar and two information panes. Moving over any of the icons in this toolbar brings up a description of what function the tool performs in the information panes.

Diagrams in *Cabriolet* are made up from points, lines and circles. Lines can either be infinite in length with any number of points on the line, or you can choose to use line segments which are as long or as short as you desire.

Circles can be drawn in two ways. The first is the same as in *Draw* where you click and drag the circle to the required size. The second method allows you to draw a circle of given radius by clicking on a centre point and two other points.

Points can be placed anywhere on the diagram and allow you to draw/create special features, for example. drawing parallel or perpendicular lines. Points can also have mirrors and can automatically be placed at the midpoint of, or perpendicular to a line.

The colours of objects are limited to either red or grey. If certain points are used for construction purposes they can be hidden, leading to a neater diagram. The program allows you to mark out angles. This is useful if you are creating a worksheet on using a protractor for example. Distances, angles and areas can automatically be measured.



ADFS::HardDisc4.$.Graphics.Cabriolet.Examples.Peaucellie *

Click (on a Line or Circle) to make a Point

Drag with Adjust to move Points

Cabriolet in action

Not so useful is the fact that there is no method of drawing a line of a desired length or an angle of a certain value. Also the program has no method of copying objects.

The program has been designed to be used exclusively from the toolbar which has both its advantages and disadvantages. The main advantage is that the program is very easy-to-use, all you have to do is click on the relevant tool, follow the instructions and the program does the rest. Also, the mouse pointer continuously changes as you move over the diagram to reflect the object it is lying on.

The program has more functions than buttons on the toolbar. Several functions are therefore grouped into a single button and although up to 15 buttons can be configured, you still end up with several functions on one button. Admittedly accessing the other functions is simply a matter of clicking on Adjust, but it does slow things down a little. A series of keyboard shortcuts could have been useful for the more experienced user.

Files can be saved both in *Draw* format or as *Cabriolet*'s own filetype.

Investigative geometry

Once you have drawn your creation you can then investigate how moving certain points changes the shape. This can be as simple as seeing how an angle changes as you move a point or as complicated as proving that an incircle of a triangle always touches the edges.

It is here in my opinion, and the publishers, that the program really comes into its own. Laws that you've been taught in school can be investigated and proved, and pupils can verify that their teachers are not talking rubbish after all!

Included with the package is a set of example files which allow you to investigate various geometrical laws.

Overall

In order to test the program fully I worked through the tutorial examples in the manual and found the program to be easy and intuitive to use.

However, I do have a number of reservations. Firstly, although the program isn't designed exclusively as a drawing package – you still have to draw the situation before you can investigate it – therefore I feel the lack of any copying facilities is questionable.

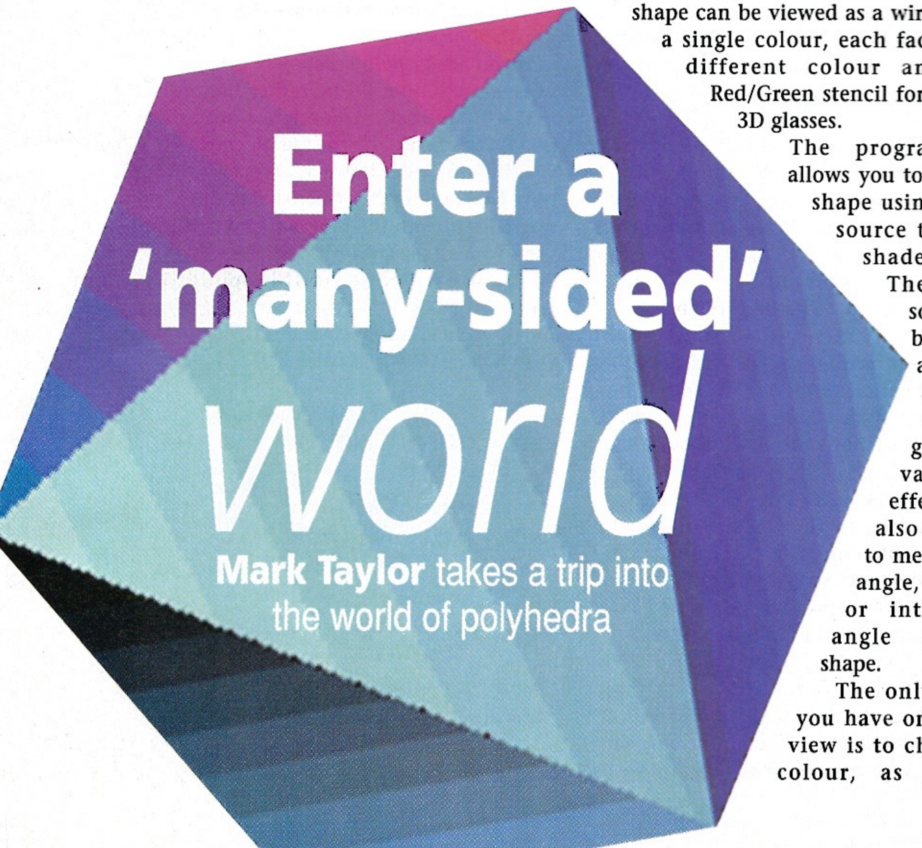
The manual, although comprehensive, leaves a lot to be desired in the presentation stakes. This is mainly because, at least with the copy I received, it is printed on a very poor printer leaving some of the screen shots unreadable.

Also the fact that there isn't enough buttons on the toolbar to allocate one to each function is something that needs looking at. Perhaps creating a larger toolbar would make the program less intuitive but I'm sure a better system than the one used at the moment could have been produced.

Overall, this is a reasonable program that makes studying geometry easier and more fun, but there are a few areas that need a little re-thinking. AU

Product details

Product:	Cabriolet
Supplier:	Warm Silence Software
Price:	£30 + VAT
Address :	PO Box 28, Woodstock, Oxfordshire OX20 1XX
Tel:	0585 487462
E-mail :	info@wss.co.uk
WWW:	http://www.wss.co.uk/



Enter a 'many-sided' world

Mark Taylor takes a trip into the world of polyhedra

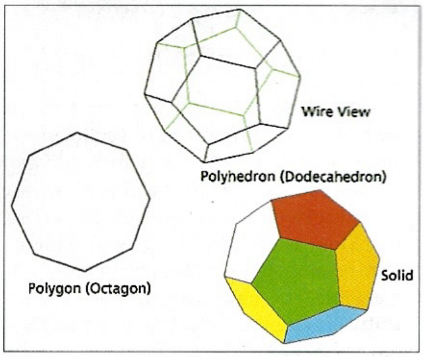
Some people are fascinated by the strangest things – my dad has always been fascinated by the subject of polyhedra. He's bought books on the subject, plastic model kits and can spend hours on a computer using *ArtWorks* to draw nets, in order to make them.

You can imagine his delight when I was asked to review two programs from Fortran Friends – *!PolyNet* and *!PolyDraw* – that allow you to create and print out nets of all forms of polyhedra.

What are polyhedra?

Before I go on to look at the two packages, I think I had better answer the question that a number of readers may be asking – what are polyhedra?

The word poly is the ancient Greek word for many. A polygon is a many-sided two-dimensional shape, for example, a triangle or an octagon. Now if that shape were to become a many-sided 3D solid, for example, a pyramid, it would be a polyhedron. Each face on a polyhedron is a polygon. Polyhedra is the group name for these solids.



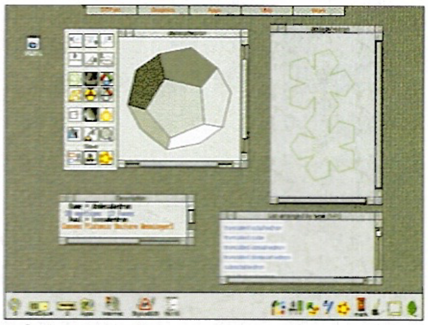
Polygons and polyhedra

The names given to different polyhedra are based on ancient Greek words depending on whether they are 2D or 3D and the number of sides/faces they have – a dodecahedron is a 3D object with 12 faces.

PolyDraw

PolyDraw allows the user to display and explore several forms of polyhedra. The program is supplied with 140 data files for different polyhedra.

Once loaded, a click on the iconbar brings up a list of polyhedra for which the program has datafiles. Clicking on one of these brings up three more windows – one containing the shapes net, another a 3D view of the shape and the third an information window containing details of the shape. Both views can be exported, the net as a *Draw* file and the 3D view can be exported as a *Draw* file, a PoV file (enabling the shape to be rendered) and as *PolyData* (the program's own filetype).



PolyDraw in action

Clicking menu on the 3D view brings up a toolbar option allowing the user easy access to all the program's functions.

The 3D view can be manipulated in a number of different ways. The solid can be rotated about any axis (x,y,z), the size of the shape can be altered and there are a number of different view options. The shape can be viewed as a wire outline, a single colour, each face with a different colour and as a Red/Green stencil for use with 3D glasses.

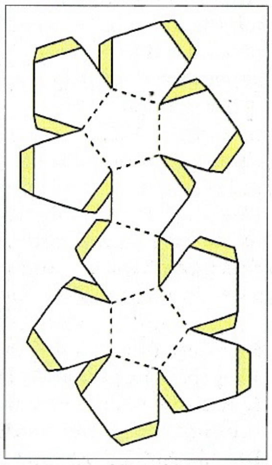
The program also allows you to view the shape using a light source to give a shaded effect. The light source can be placed anywhere around the shape giving a variety of effects. It is also possible to measure any angle, distance or interplanar angle on the shape.

The only option you have on the net view is to change its colour, as all the manipulation is done in the 3D view. Full instructions are included to enable you to create your own shape data using a text editor. This however, looked to be a little complicated and in my opinion certainly not something for the faint-hearted.

PolyNet

PolyNet allows you to produce nets of polyhedra using the data from *PolyDraw*. Once installed, you simply drag a *PolyDraw* file onto its icon and choose whether or not you wish to use the default net or create your own. Two windows then appear, one showing the 3D solid and the other the net.

Creating your own nets is easy and is done simply by clicking on the relevant face on the solid and the net then draws itself in the other window.



A net created in PolyNet

The program can automatically place tabs on each of the faces allowing you to cut the net out and stick the model together – although this may take some time if you try doing this with a complicated shape.

The nets can be saved as *Draw* files for further manipulation or printed out or as a *PolyDraw* file.

Overall

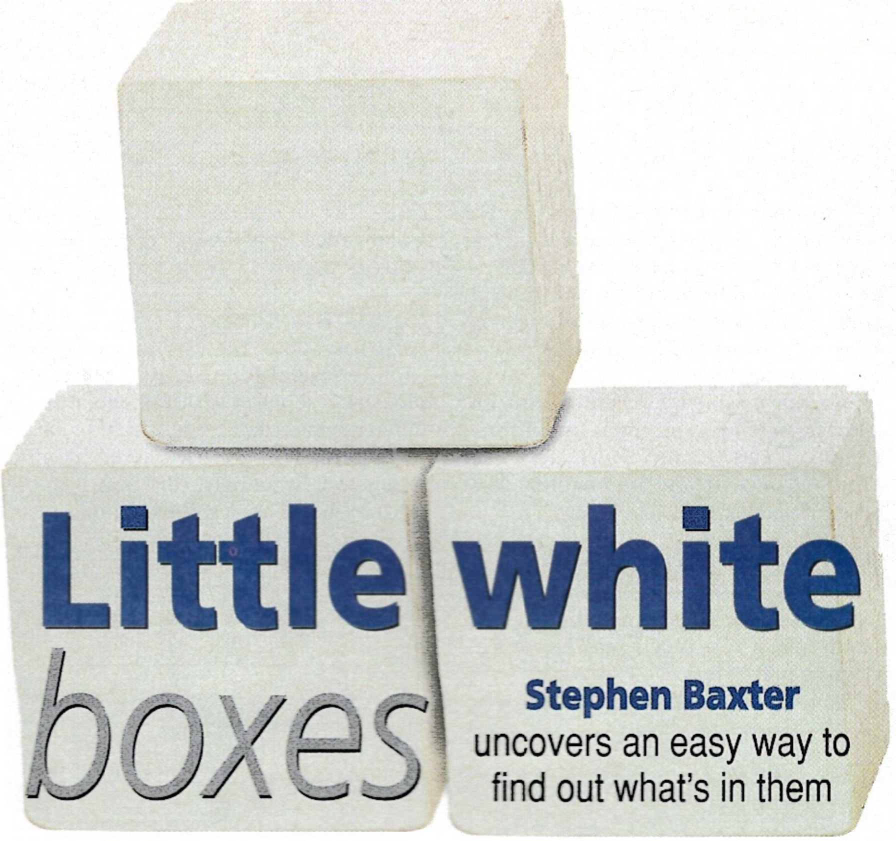
Both programs are well-written and aside from a few niggles worked very well, offering an excellent insight into the fascinating world of polyhedra. The programs, in my opinion, are good value for money, costing £20 each or £35 for both products, with extra data discs being available for £10.

Both programs have obvious uses, at all levels, in any mathematics department. I also think the programs could have uses in other areas of the curriculum especially in primary schools where teachers could encourage pupils to construct a model of the shape as part of their technology course and then study the same shape in mathematics.

Overall, two excellent mathematical programs which come recommended.

Product Information

Product:	PolyDraw, PolyNet
Price:	£20 each or £35 for both. Additional data discs available for £10 each.
Supplier:	Fortran Friends
Address:	PO Box 64, Didcot. OX11 0TH
Tel:	01235-834357



Little white boxes

Stephen Baxter uncovers an easy way to find out what's in them

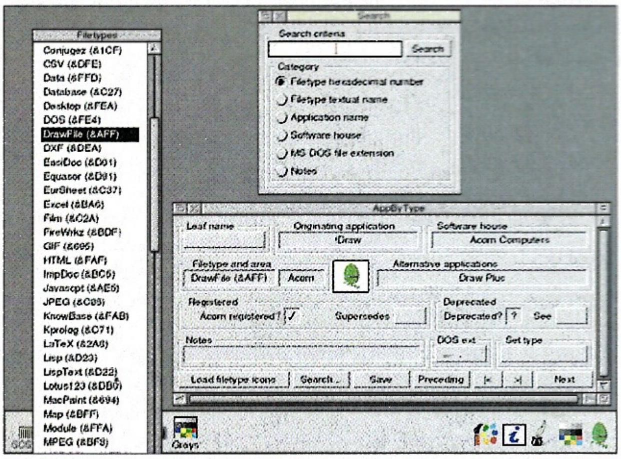
There can't be many computer users who haven't, at one time or another, encountered a mysterious file lurking in a little visited directory on their hard disc, only to wonder what on earth it is. The file's icon gives no clue, as it remains the anonymous empty white box, its hexadecimal filetype rings no bells, and even loading the file into *Edit* doesn't help as all you see is a mass of numerical gibberish.

Only the brave, however, would be willing to delete it in ignorance of its contents – what if it contains 1992's accounts from an old spreadsheet package you've forgotten the name of, or what if it's an archive of aged letters, compressed with that PD application you once used?

If you could just discover which application owned the file you would have some chance of being able to access it via that program or even manual decoding. Alternatively, the name of the filetype might itself be enough of a reminder to let you know you can now safely delete the file.

Salvation

This is where *AppByType* comes in. Essentially it is no more than a database of Acorn filetypes – version 1.09 knows about 1016 of the 4096 possible filetype numbers, that's nearly 25 per cent. Though do remember not all of the 4096 possibles are currently in use, so *AppByType* does know about a bigger proportion of allocated filetypes than the figure of 1016 at first suggests.



Leaf name:
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Filetype and area: DrawFile (&AFF) | Acorn
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Deprecated: Deprecated? ? | See:
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All the information you could want

The program itself provides access to this specialised database in a number of handy ways. Most uses for this program fall into one of two categories – either you'll want to identify information given a particular file, or you will wish to search the database for any record matching a certain criteria, say to find all filetypes noted as containing text of one form or another, or perhaps to find all filetypes allocated to a particular software house.

The former of these is easily achieved. Dropping a mystery file onto the iconbar icon brings up the information window telling you all you need to know about the file's type. This ranges from the filetype name to the name of the originating application and software house. You're even told if there are other applications that can handle the file, whether the filetype has been officially allocated by Acorn, and if there are other associated filetypes, either preceded or superseded by this type.

There are several other niceties, I'm glad to say. If a *Squash*ed file is dropped onto *AppByType*, it will tell you the filetype of the original file, without decompressing it – useful if you're an avid *Squash* fan.

Many filetypes, especially those not reserved or reservable, as often used by PD programs, are made use of by more than one application for completely different purposes.

AppByType, will attempt to present information on each incarnation of a filetype, when it knows of such multiple uses, although I don't think it will attempt to decide which type is the correct one from the file's contents.

Loathe though I am to utter the term, I ought also to mention that support for decoding type information from MS DOS files is provided, and will be of benefit to many users. In a DOS partition, files will usually have Acorn type DOS (&FE4) or Data (&FFD). *AppByType* will try to infer the actual type corresponding to the file's contents, by decoding either the file extension or file header. You may then, if you wish, re-type the file – this action can be performed automatically on a batch of files if need be.

Searching

So far I've described what *AppByType* can do to individual files. The other important string to its bow concerns the ability to search the database directly for information. Support for this is provided, and searches can be partial – a record whose field merely contains the search string, rather than is identical to it, will match – and you may search through any of the fields: Filetype name, application name, software house, MS DOS file extension and notes.

Unfortunately however this ability is virtually useless in practice. Searches are painfully slow – of the order of minutes on a pre-Risc PC machine. Furthermore, the reason for this is not a good one. I took a look at the code. It's written in BASIC, which although not the fastest language going still isn't enough to explain the abysmal speed, given the database consists of only some 1000 records. The real problem lies in the algorithm used, which is grossly inefficient.

If you need *AppByType* solely for this side of its functioning I'd be rather hesitant to part with any cash. You might want to suggest Cherisha rewrite the search code first... On the plus side, however, we are talking only £15, and for this Cherisha do offer free upgrades to both the program and the database, so perhaps all is not lost.

If you have a use for this application you could do worse than buy it and ask nicely for a solution to the fatigued search code. AU

Product details

Product: AppByType
Supplier: Cherisha Software
Price: £15 single user licence, £45 site licence
Address: 16 Woodside Drive, Wilmington,
Dartford, Kent, DA2 7NG
Tel: 01322-553953
Fax: 01322-400883
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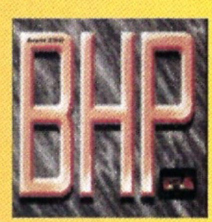

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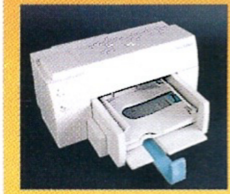

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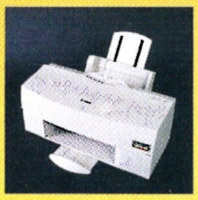

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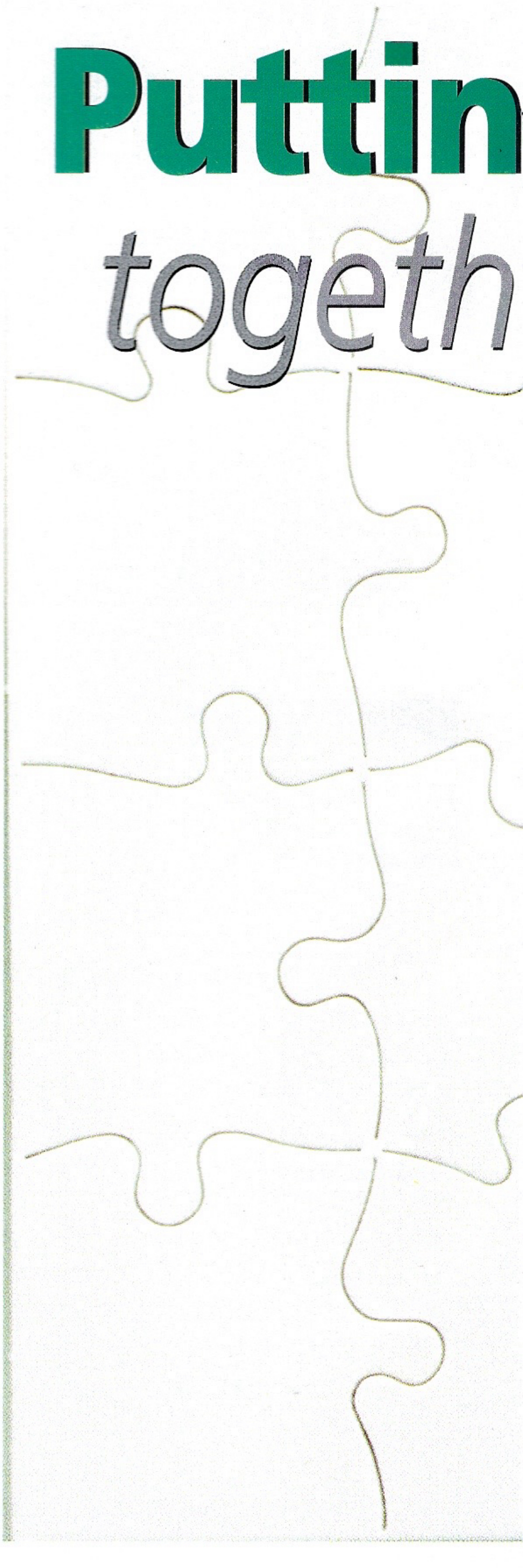


Puttin togeth

In this, the final part of the series, the set of techniques discussed and developed over the last five months are brought together to form the ultimate goal of the articles: Something to play. You shouldn't be surprised or disappointed to learn that we are unlikely to find a Flight Simulator 17 basher on the cover disc. To develop such a complex and realistic game necessitates far more than a few graphics engine techniques, such as large teams of professional artists to draw the scenery and objects, physicists to model the dynamics plus managers to, er, manage things and soak up the profit.

What you find on the cover disc combines the routines we've developed with a very simplistic physics model to produce a simple 'fly around and explore things' type of game. The graphics engine used to render the landscape in part four of this series will be extended to cope with additional objects within the terrain environment and a simple physics model will be used to simulate the interaction of the game elements.

Objects in the scene

The render pipeline used by the graphics routines allows additional objects to be placed within the scene in a very simple way. The stages of the pipeline are currently:

1. Find which triangles are contained in the view volume.
2. Transform all triangles into viewer relative screen coordinates (with shading data).
3. Place all transformed triangles in a buffer with corresponding Z depth coordinate.
4. Sort buffer by Z depth values.
5. Plot triangles in order from furthest to closest.

Passing additional objects through this process is a matter of placing any triangles they require into the transformed triangle buffer of stage 3. The elements of the objects will now be combined with the elements of the environment, to be sorted and plotted in the correct order by the remainder of the pipeline stages. So long as the coordinate system used by the objects matches that of the landscape the two routines will appear as one.

Calculating the coordinates of the triangles used by each object in the scene will be an extension of the routine used to plot the various shaded 'Acorn' objects from part three of the series. The centre of the object will no longer be the middle of the screen but in some way relative to the viewer location and similarly, the three rotation angles will depend on the relationship between the objects position in the scene relative to the viewers location.

At certain times some objects may be beyond the view volume and need not be considered for plotting. As we would like to build the scene from many objects it would be useful to have a fast system for determining this exclusion property so we can avoid calculating vertex coordinates for unnecessary triangles.

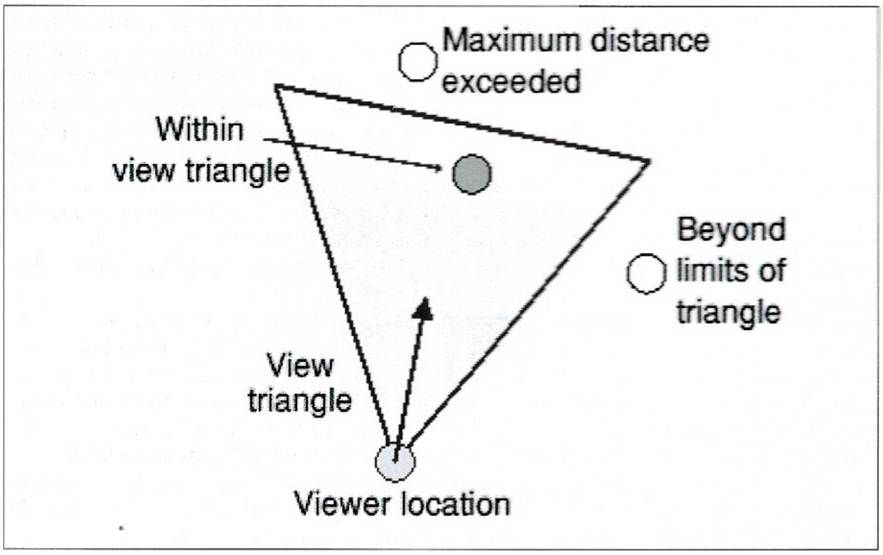


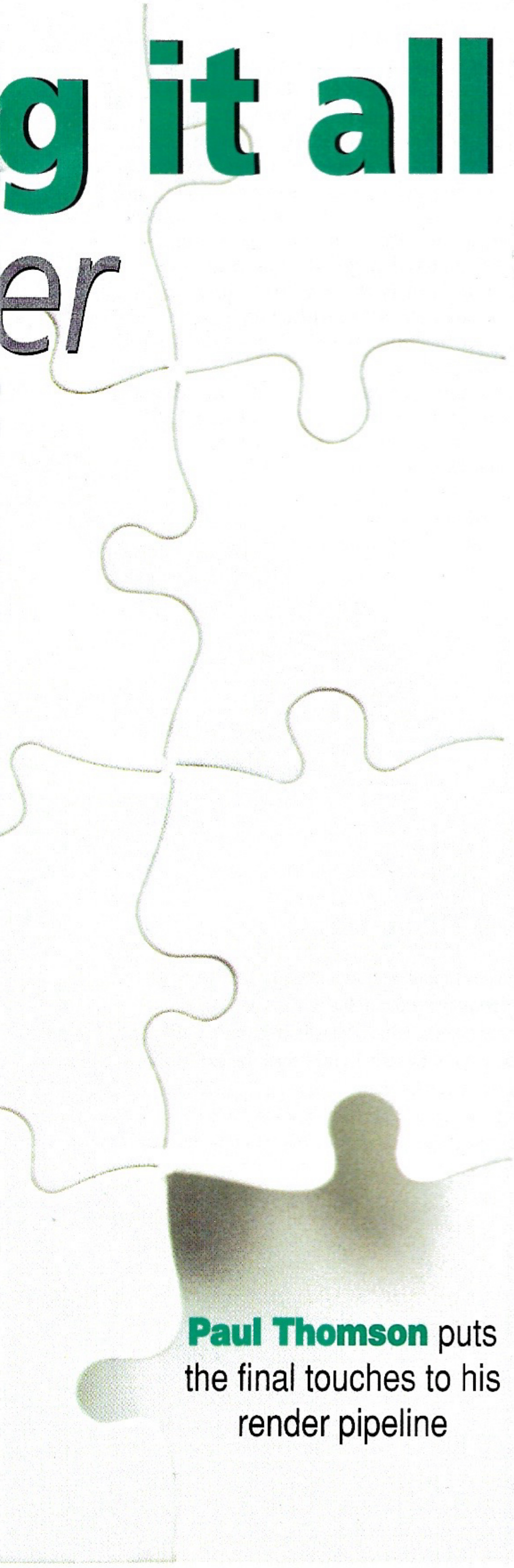
Figure I: Finding which objects to render

Before defining some methods to find viewer relative coordinates, rotations and inclusion/exclusion testing, a system for storing object properties would be useful. As we would like some of the objects to be free to move independently of the viewer, and to have any number of duplicates of the same polygon mesh, the logical data structure for referencing all the objects would be a block of memory storing the objects world coordinates, its rotation about the three axes and a reference to the objects mesh structure.

It would also be nice to have some type of simple animation system for the objects themselves so their vertices and shape, are not fixed. The example chosen for this article is the rotation of helicopter rotor blades. Defining several copies of the whole object with the rotors in different positions would be wasteful as much of the data would be shared by the different 'frames' of the objects animation.

A simple means of vector object animation is to hold several frames of vertex coordinates, each sharing the same triangle linking data. This is not an ideal solution, but is suitably simple and fast to implement. Program 1 on the disc demonstrates the helicopter animation sequence –

g it all er



Paul Thomson puts the final touches to his render pipeline

holding the left mouse button allows you to control the orientation of the object with the mouse.

Finding which objects are contained in the view volume is simplified by the functioning of the terrain plotter. When finding the portion of the terrain to be considered for rendering, only the X and Z coordinates were considered, the height (Y) coordinate was ignored. Adopting a similar strategy we only need decide if an object's X and Z coordinates appear within the same view triangle as used by the terrain plotter. Figure I shows the idea.

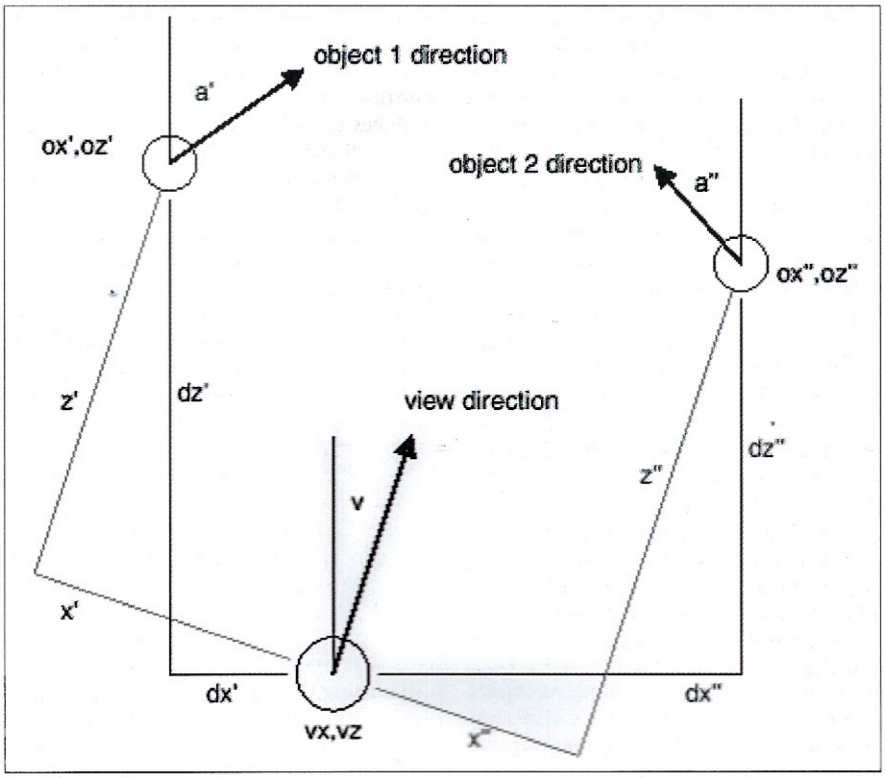


Fig II: Viewer relative coordinates

It is now a simple matter of searching through the object database selecting those objects that are within the view triangle. With a bit of thought the test can be performed by four assembler instructions for each object. Once selected, the objects coordinates and angles of rotation need to be adjusted to be relative to the observers position and direction of view. Figure II shows the problem to be resolved.

Angle **v** is the observer's direction of view.

Angles **a'** and **a''** are the angles of rotation (about the Y axis) of objects 1 and 2 respectively.

Coordinates (**vx,vz**), (**ox',oz'**) and (**ox'',oz''**) define the position of the viewer and objects one and two.

To calculate the viewer relative coordinates of the two objects, that is to find their positions and directions as seen from the observers point of view, we first must calculate the lengths of **dx',dz'** and **dx'',dz''**. We now need to rotate the whole scene about the viewer until the view direction points directly up the page, a process accomplished by a rotation of **-v** units about **vx,vz**. The whole process for object 1 is as follows:

```
dx' = ox'-vx
dz' = oz'-vz
x' = cos(-v).dx' + sin(-v).dz'
z' = -sin(-v).dx' + cos(-v).dz'
```

To complete the process the objects direction angles also need to be rotated by -**v** units, by simply subtracting **v** from both **a'** and **a''**. To find **y'** we can extend the method into three dimensions by considering the viewer rotation about the X and Z axes. We now have a method for calculating the locations and rotation angles for the objects of the scene.

The rendering pipeline has now increased in length:

1. Find which triangles of the terrain are within the bounds of the view volume.
2. Transform these triangles into viewer relative screen coordinates with shading data.
3. Place transformed triangles in buffer with corresponding Z depth coordinates.
4. Search through object database selecting those objects that are contained by the view volume. For those included:
5. Transform objects coordinates and rotation angles into viewer relative parameters.
6. Transform all vertices of object into screen coordinates and shading data.
7. Place all objects triangles into buffer with corresponding Z depth coordinates.
8. Sort buffer by Z depth values.
9. Plot triangles in order from furthest to closest.

Stages 1 to 3 deal with the landscape, stages 4 to 7 with the objects leaving 8 and 9 to render the data on the screen.

Simple game control

Right I'm sure we've now all got fully functional graphics engines ready for action so what now? A nice game engine is much more than flashy graphics: We need facilities for testing if two objects have collided, mechanisms for controlling both the play-

➤

Putting it all together

ers vehicle and any other animated objects in the scene. Oh, and there's also that small matter of the actual games purpose itself; from the mindless chimpanzee behaviour of shooting anything that moves to the more human solution of problems, anything is possible. Without discussing the techniques of physics modelling and artificially 'intelligent' control systems, we can clearly see the interface such routines would need to interact with our graphics engine.

As all the objects and their associated rotation angles are stored in the object database, movement of their coordinates is achieved by adjusting the relevant entries. Changing an object from a brand new, shiny, just-left-the-factory model to a battle damaged wreck would involve designing various levels of object degradation and changing the object vertex and triangle references, and thus the shape and texture of the model, to reflect the level of damage.

Conclusions

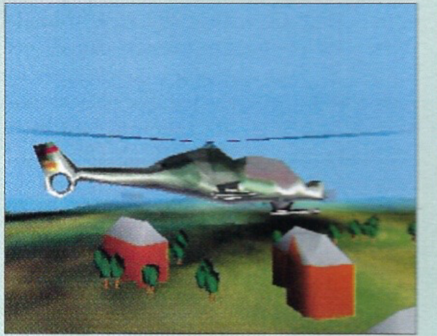
This is the last article in the series and the logical conclusion is to demonstrate that it is indeed a valid way of writing a graphics engine. The proof of this is on the cover disc, a fully playable, objective-less, game showing in glorious Technicolor the techniques of the last few months. It runs at a respectable 14-ish frames per second on a StrongARM, perfectly acceptable for a game, and is the result of three weeks work in my spare time, much slower on lesser machines but that's the way it goes unfortunately.

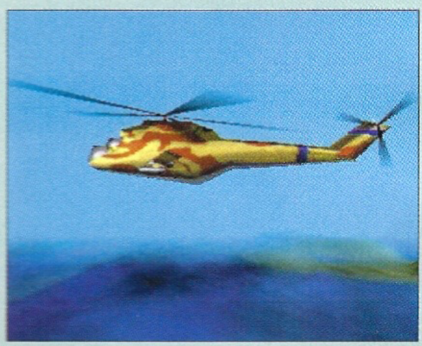
I hope you have found this an interesting and informative set of articles. If anyone wishes to confirm the rumours that they have found them useful I would be very pleased to hear from you! My e-mail address is contained in the !Help file of the game demo on the disc.

The game demo

On the cover disc you will find a playable demo using the techniques developed over the last five articles. You'll need at least 1Mb of VRAM to run the demo as it requires a 320x256 screen mode with 24-bit colour depth – so it's a Risc PC at the very least. A StrongARM processor is highly recommended unless you like to watch things in slow motion. For those without the required specification you'll have to make do with the screenshots and the duplicate JPEG images on the cover disc.

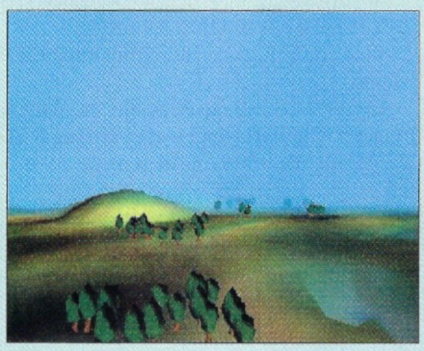
There is no real objective in the game, just fly your helicopter around over the landscape and explore the various houses, trees and the odd computer control helicopter. Use the mouse to control the spin and dive of the helicopter. The left button accelerates forwards, the right button backwards and the middle button brakes. Pressing the left and right cursor keys spins the camera position around the players helicopter. As with all the programs, Escape exits.

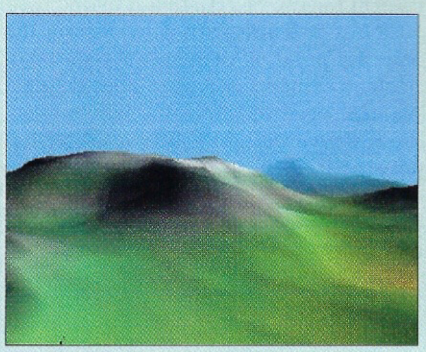


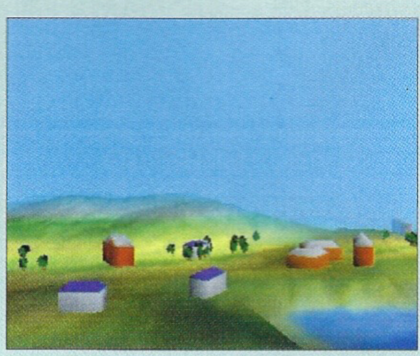


Please note that this is just a demonstration of a graphics engine for the game, an introduction to flying helicopters it most certainly isn't. The main omission is a collision detection system – although you should find it difficult to fly through the ground, the same is not true of the other objects, which present little more obstruction to your journey than the extra time taken to render them.

In case you're wondering what plans I have for this engine, I'll just say this won't be the last you'll see of it.







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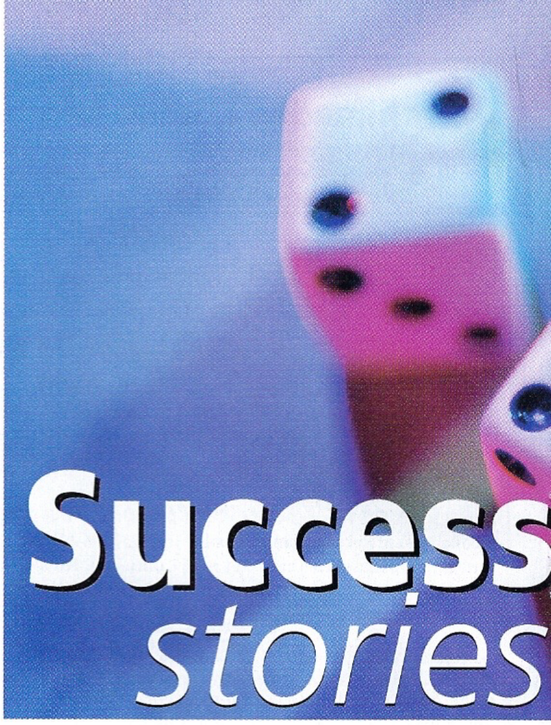
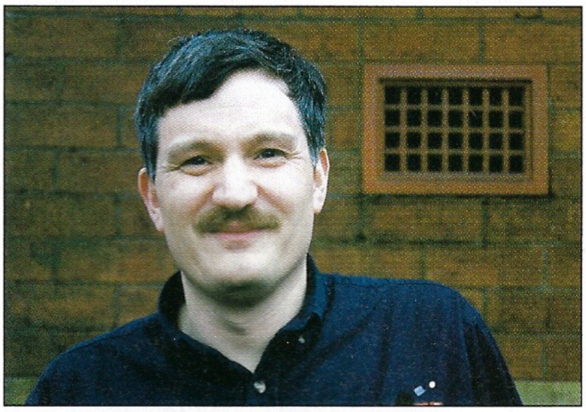


Success stories

> *Special Education? Our philosophy has always been inclusive – to create great software that's easy-to-use, so everybody will use it, but with facilities for special needs. There are schools buying our software who have no idea that our core business is special needs. Micro Electronics? That's an old term, very rarely used today. Resource Centre? We're not a resource centre any more. The days when you could buy everything that came out are over. In the early days of the BBC computer we used to buy every piece of hardware or software; you can't do that any more.* – Paul Nuttall, explaining why SEMERC isn't any more.

When I started working on *Acorn User*, SEMERC were usually known as 'Northwest' SEMERC. I often wondered why. Admittedly, they were based in Oldham, but then you didn't come across 'South-coast' CJE Micro's, or 'Oxbridge' Iota. Naturally, the answer lies in the company's origins.

'In 1982 we were set up as one of four SEMERCs with Government funding,' begins Paul Nuttall's history lesson. 'They literally divided the country into four and said: "Right, you're Manchester SEMERC." We were based at the Polytechnic in Manchester and we covered down to Birmingham, up into Cumbria and across to Northern Ireland.



Paul Nuttall, Sales & Marketing Director of SEMERC

'Our role was to be a resource centre; somewhere where people could contact each other and be trained in new approaches. In 1982, nobody had computers – there was all this hoo-hah with people saying it was going to revolutionise children's education, but nobody quite knew how.'

Early BBC days

One of Northwest SEMERC's briefs was to look at new techniques, and to see how these could be used to improve access. They were to look at what software and hardware was needed to help students with disabilities.

'We did some wonderful things in those days, mainly on the BBC computer. We had a software unit up in Manchester, and did programs like *Prompt Writer* and *Touch Explorer* – a whole range of software. A lot of the original ideas for Concept Keyboards and Switch access came out of that unit, and it was a nice place to visit. You could go and have a cup of coffee and chat with people, in the good old '80s.

'And then 1989 came along, and Government funding ceased. The approach from the Government then was: "If you're doing worthwhile work and selling a service, then authorities will buy it." So we changed from being Government funded to selling services. We were still an education unit, we moved to Oldham, and our brief slightly changed.'

At the start of 1989, SEMERC didn't sell software themselves, but were distributing what was known as 'Blue File' software. This was copyright-free, written by parents and teachers and lodged with the four SEMERCs. You could go in to a SEMERC on your day off and spend the day copying the software onto your own discs. Documentation was a bit more pot luck, and of course the quality of the software itself was variable.

Enter the Archimedes

In 1989, Northwest SEMERC decided to formalise the arrangement. They put the software into packs (plastic bag, discs and some documentation) and distributed it for £1.75 a pack. This for many people was far more convenient than using up your day off to travel to a SEMERC.

'Around the same time the other SEMERCs sort of disappeared. Newcastle SEMERC became a room within the University of Northumbria, Redbridge SEMERC became a Local Authority Resource Centre, and Bristol SEMERC became a part of the Polytechnic of Bristol, where the staff used to do lectures. After a couple of years, they sort of faded out.'

Northwest SEMERC were lucky, because the Local Authority that Paul Nuttall worked for used Master Compacts, so he had a knowledge of ADFS which was invaluable for copying the Blue File packs over to the new Archimedes machines. They sold because there was simply nothing out there for the new machines.

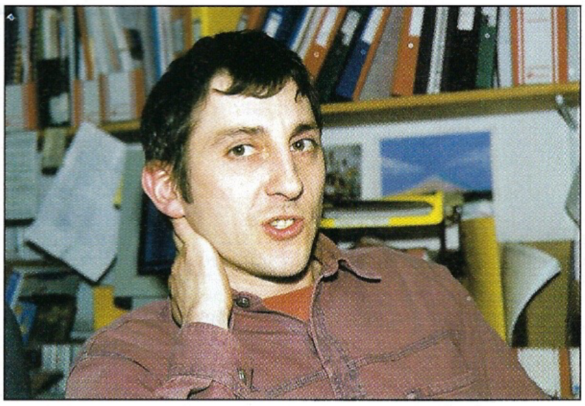
'We then started getting teachers submitting software, and our first 'biggie' was a program called *Phases*. This was an Acorn word processor, and we put version one out at £10. This was SEMERC's first commercial product; it wasn't freely copyable, and was designed to give the author a return. The trouble with Blue File was that people liked giving us software but they didn't like supporting it, particularly because they didn't get any money back.'

'I always chuckle, because Computer Concepts put out an advert saying: *"Impression – 17,000 copies sold."* We'd just sold our 20,000th copy of *Phases*, albeit in a different market.'

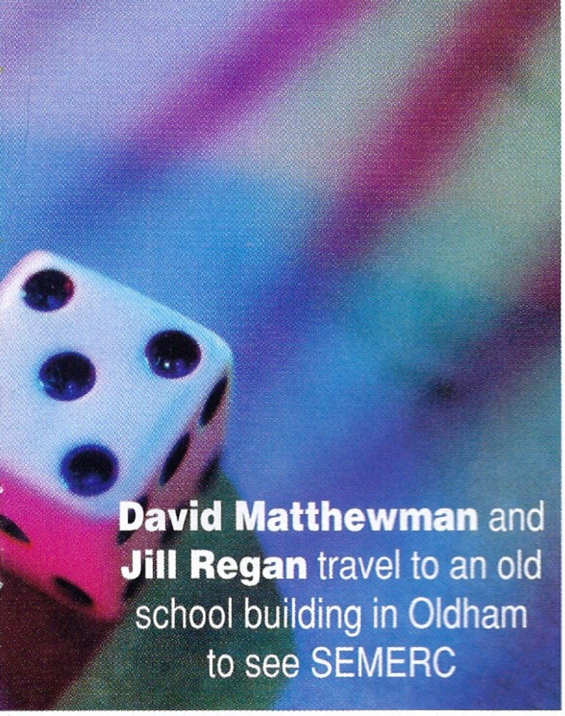
My World and more

Soon after *Phases* came *My World*, which had been developed by Derbyshire County Council. Derbyshire asked SEMERC to sell it, trusting SEMERC to sell it at a fair price, and to support it. Launched in 1991, *My World* is still going strong today; it's won numerous awards and is one of the most popular education programs in the UK. It established SEMERC's reputation.

People outside the education market, if



Rod Boyes, developer of *Fuzzbuzz*



David Matthewman and **Jill Regan** travel to an old school building in Oldham to see SEMERC

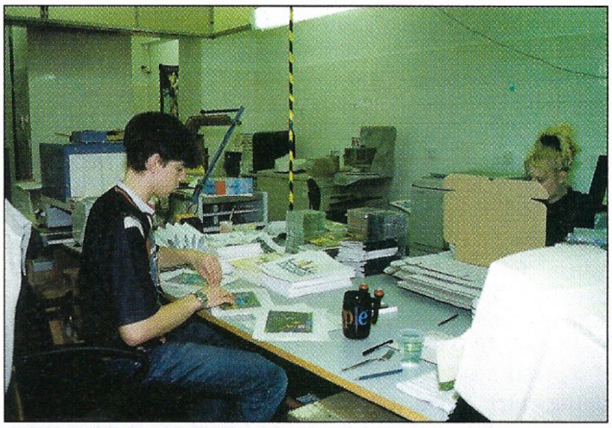
they're aware of SEMERC at all, probably think they are quite a small operation. They're not. They keep themselves to themselves, promoting by direct mailings of catalogues to the education sector and spending very little on advertising and selling very little through retail. But the catalogues they send out are 78 pages of full-colour A4 – how many other Acorn companies have a product range that size, let alone the money to print a catalogue like that?

Even sending out catalogues has its unforeseen problems. A couple of years ago the cover of a SEMERC catalogue had white mice on it to advertise the SEMERC rollerball; a number of teachers complained about being sent pictures of vermin through the post.

SEMERC frequently work in partnership with other companies to tailor their software and hardware to be useful to the special needs market. Their *Pages* wordprocessor was developed by Softease and is basically *Textease* with some alterations. Stuart Tyrrell Developments are just down the road, and design hardware for SEMERC. They've even had a supplier to the defence industry manufacturing a robust, high-quality joystick as a mouse replacement.

Cross-platform

SEMERC is a multi-platform developer. Much of their software runs on Acorn and PC, with rather less running on Macs. You'd expect nothing less of a company whose main brief was to be useful to schools regardless of what machine they were using, but cross-platform support can be awkward at best. SEMERC are hoping that a couple of developments will help this.



The packing room, which used to be the school's kitchen

Acorn's much-awaited *Director 6* player is awaited nowhere with more eagerness than at SEMERC. The advantages of being able to write a multimedia application that will run on all three platforms (Acorn, Mac and PC) are obvious. Furthermore, *Director 6* movies should even be able to run on set-top boxes – although possibly not on older machines.

Granada Learning, who which own SEMERC, are working on a cross-platform set of C libraries and a development environment to allow more complex applications to be written in a truly cross-platform manner. Called *Black Sun*, this was still under wraps at the time of writing, but the developers at SEMERC were very enthusiastic about it. It's just one of the benefits of SEMERC's having been bought by YITM a couple of years ago, which is now part of Granada Learning.

'SEMERC is now part of YITM,' Paul explains. 'This means that not only do we have access to our own people, we have access to YITM consultants. The YITM side of the business in interesting, because they are one of the few companies that actually produces Acorn CDs (as well as PC and some Macintosh ones). YITM tends to be in the Secondary down to Primary area, and we're Special Needs up to Primary – we meet in the middle somewhere, but sell to different markets.'

Brilliant additions

SEMERC have bought companies themselves which they thought would be useful. Rod Boyes was – until two and a half years ago – one half of the company Brilliant Computing, at which point he sold the Brilliant Computing name and software to SEMERC.

'SEMERC needed some real, deep-rooted education special needs software for children,' Rod explains. 'We were just using switches for the first time, and SEMERC were a bit lacking in that kind of software. They had early reading software – the *My World* series – but didn't have anything for children with profound multiple learning difficulties, or for children who were just starting to use switches for the first time because they had severe physical disabilities. The Brilliant collection gave them a much more well-rounded selection of software.'

He joined the company and is now developing software in-house. He's a project manager, and his current project is a cross-platform CD-ROM called *Fuzzbuzz*. Fuzzbuzzes are cute blue blobs with two legs and two antennae, that bounce ➤

Company profile

SEMERC were started in 1982 (as Northwest Special Education Micro Electronic Resource Centre). Before moving to Oldham in 1989, they were based at Manchester Polytechnic. They are now in a converted school, complete with wooden floors and tiled walls, which the contractors didn't have the money to remove when doing the conversion.

By failing to finish the job, they ensured that the SEMERC offices are replete with character, and the perfect working environment for an educational software house. It also causes Tracey Brears to have regular flashbacks to the time when she was a pupil at the school.

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Tracey Brears	PA to MD
Matthew Clark	Production Controller
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Jamie Hewson	Graphics
Mal Hilton	Sales & Marketing Director, YITM
Michael Johnson	Programmer
Wendy McHugh	Development Manager
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Duncan Rhodes	Management information
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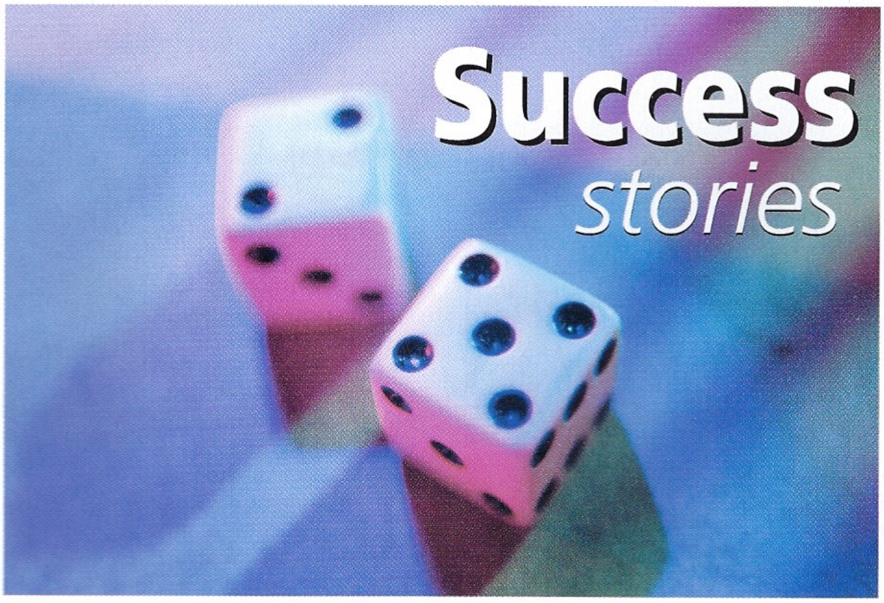
Alwyn Thomas	Production
Margaret Thompson	Marketing
Tracy Warrington	Order processing
Christine Waterworth	Sales
Paul Whitehead	Production

(Yes, that's the same Steve Powell who used to write the DTP column for *Acorn User*, or more accurately used to write 'Wibble, wibble, wibble – David, you can edit this to make it say something coherent, can't you?' He now programs PCs, which is pretty good punishment for never getting his copy in on time.)



Success stories

around the screen taking part in a number of word games. Idyllic indeed would be the life of a Fuzzbuzz, if it weren't for the red, spiky, teeth-bearing Slinxes. You can tell the Slinxes are evil because they have hairy, spider-like arms.

Several SEMERC projects originated in other media, and *Fuzzbuzz* is no exception. It's based on the Oxford reading scheme for special needs, a popular set of books by Colin Harris. SEMERC have been working closely with Colin for the transition of *Fuzzbuzz* to the computer.

As well as Fuzzbuzz (for which he is doing much of the coding and graphics himself), Rod has another couple of projects on the go which he has freelance people doing the coding and the graphics on. These are mostly conversions between platforms, which Rod considers much easier.

There are a lot of Macintosh machines around the SEMERC offices; apparently SEMERC's admin has historically been done on Macs. However, Rod admits: 'We do a lot of our graphics development on Macintoshes, because the graphic designers that come in here are used to them. If you want to get the best people, you've got to get the machinery that they can use.'

Older machines

The Primary education sector is notoriously poor, and slow to buy new hardware. This can cause developers some problems, as there's a limit to how backwards-compatible you can make software.

'A lot of people who've got Acorns are still expecting their software to run on A3000s,' Rod says, not without sympathy. 'These are quite old machines; if we look at PCs from that era, we're not looking at developing software for them, so I think Acorn users have to realise that the specifications of their Acorn machines need to be bumped up, to allow their machines to run the software that we're developing these days.

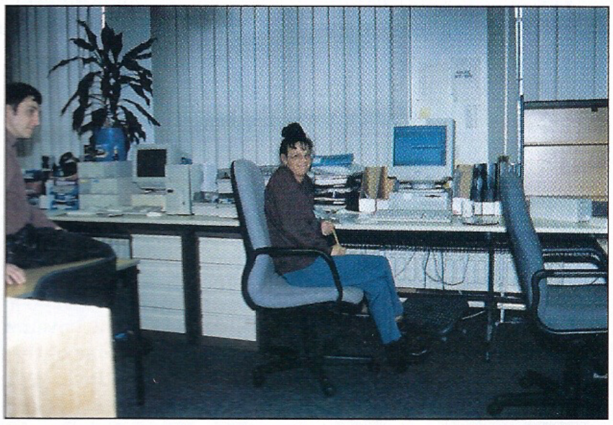
'To some extent, the software is now driving the machines. There's no point in people buying new machines if the software will run on old ones, but the technology's accelerating. A few years ago a 33MHz 486 would have been the "big thing" for six months, but now the fastest machine on the PC circuit will probably only be the fastest for about six weeks.'

It's not just the speed of the older machines that's a potential problem, but the memory too. With most programs these days using a lot of sound and animation, fitting the software into even 4Mb can be a problem.

Run by teachers

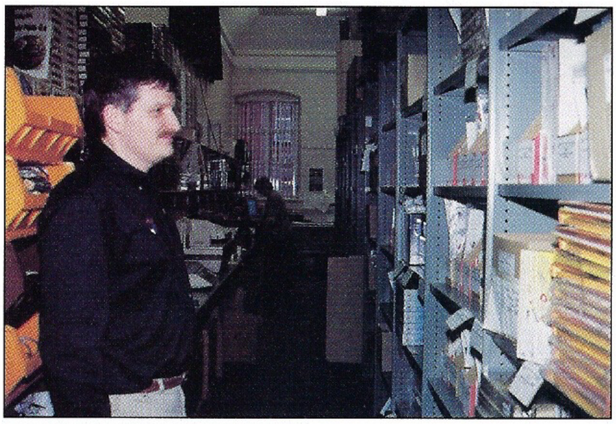
'SEMERC are an interesting, very unusual company', explains Rod, 'which was originally set up by teachers and has still got a lot of teachers working within. It's a well-respected company within the special needs field, and in primary, too.'

The association with YITM has meant that projects have to be more commercially viable than before. SEMERC had certainly been a commercial success before that, or YITM would never have bought them, but they did have the image of being run by and for teachers, a hang over from their Resource Centre days.



Tracey Brears, PA, who used to go to school in the classroom next door

'Because of that, they had a lot of friends in the education community, and there'll be a lot of teachers who'll say: "Well, SEMERC's just another software company now." But I think the fact that we're still employing teachers, and that there's a lot of software coming out of SEMERC that's produced by teachers means that we're still doing a lot of what we used to do. It just means that our newer projects have to be aimed at the wider education market as well as the special needs market.'



Paul Nuttall in SEMERC's stockroom

Having said that, the in-house packaging facilities at SEMERC (in the old kitchen) are very flexible, and allow short runs to be economic.

'With us working in Special Needs,' adds Paul 'the demand for some of the products we do is fairly limited. Sometimes it's just a few hundred units, and in that case you can't really afford to go into big production. So a lot of what we do is printed and manufactured here – running off the manuals on the photocopier and duplicating the discs in-house. We're just about to purchase a CD duplication system so that we can produce short runs.'

Packaging varies from full boxed products with a professionally printed manual, down to a disc and some photocopied sheets of paper in a plastic bag, as the product (and the demand for it) dictates. SEMERC have started to use a video case style of box now; they're cheap, can be done in-house and don't crush easily in the post.

This odd combination of best-selling packages like *My World* and short-run floppy discs sent out in a plastic bag should continue to serve SEMERC well for the foreseeable future.

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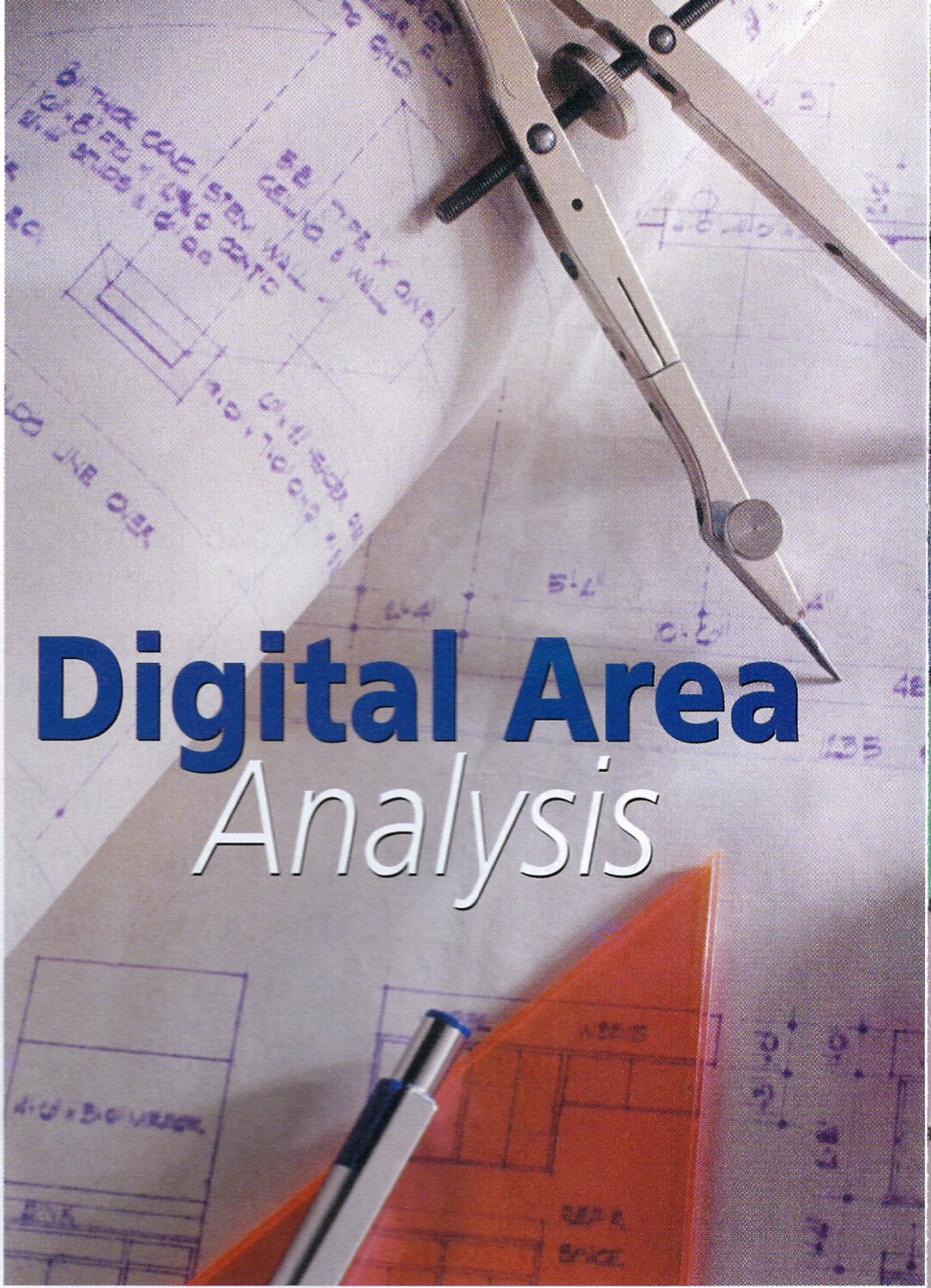


Digital Area *Analysis*

Mike Cook covers more ground digitally

Once upon a time when I was at school I did a project on surveying. A team of us had to survey the school playing field, and a most peculiar shape it was too. After identifying each side by means of baseline triangulation we had to work out the area. This involved splitting our drawing into lots and lots of triangles and working out the area of each, needless to say each team got a different answer.

As I recall it was about eight acres and things were made complex by the fact that one of the boundaries was curved. My dad used to work in a drawing office and so I acquired a planometer, a cunning mechanical device for measuring the area of arbitrary shapes. You had to trace round the shape and the reading on a barrel gave you the area. It was a bit hit and miss and required the drawing to be on just the right sort of paper so the surface friction was correct.

If I had only waited 30 years I could have used *DAA* by Wardlaw Surveys. This cunning and perhaps unique piece of software will measure the area of an arbitrary shape almost automatically – with a bit of help from the user.

In the introduction the manual says the application is aimed at civil engineers who require accurate area calculations from roadworks cross-sectional or plan drawings to determine the volumes of required material. But it could be useful for any one interested in area, from farmers to carpet layers.

Basically the idea is simple, get the drawing as a sprite file, make sure the area is bound by some sort of line and count the pixels inside it. This is relatively easily done by using a flood-fill algorithm like the paint bucket tool found in most paint applications. But, as they say, the devil is in the detail.

To make use of DAA you need some sort of image input device, normally this would be a flatbed scanner although a hand scanner or camera with digitiser would suffice. You could even use *Draw* files if your scale plan is being drawn with that package in the first place.

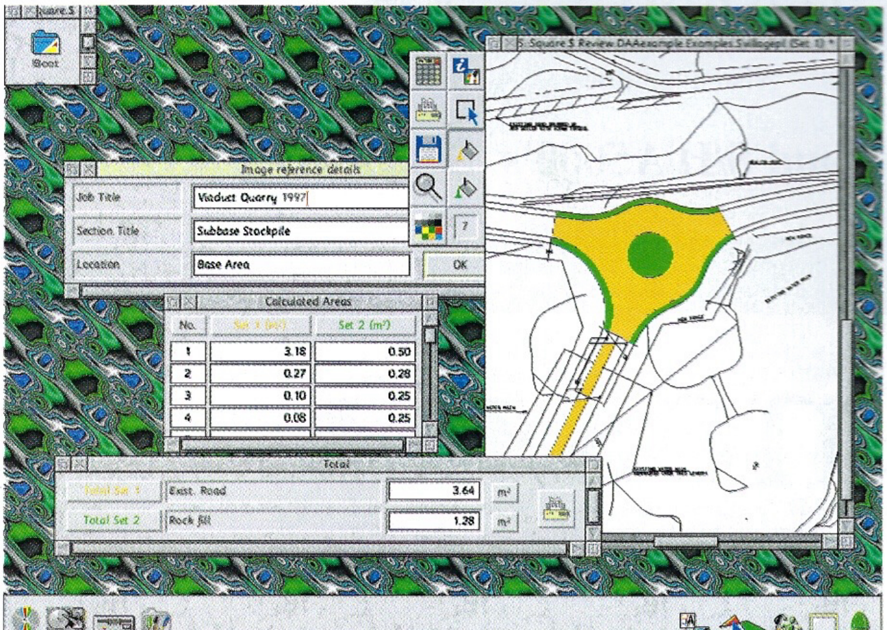


Image reference details

Job Title	Viaduct Quarry 1997
Section Title	Subbase Stockpile
Location	Base Area

Calculated Areas

No.	Set 1 (m²)	Set 2 (m²)
1	3.18	0.50
2	0.27	0.28
3	0.10	0.25
4	0.08	0.25

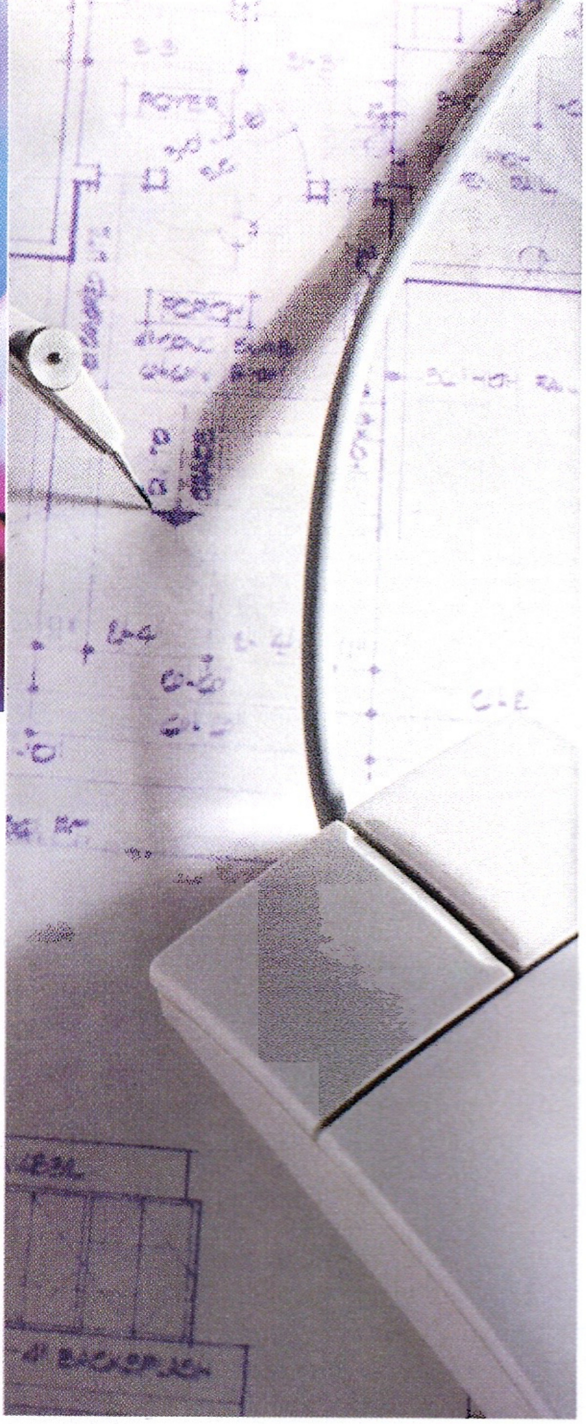
Total

Total Set 1	Exist. Road	3.64	m²
Total Set 2	Rock fill	1.28	m²

A handy way to calculate your rock fill totals

On this plan you must include a known area to allow you to calibrate DAA, there is a 3cm square on transparent plastic supplied which can be slipped over the plan in some unused area before scanning. Having got your plan in a sprite file you can drag it onto the DAA icon and see it in the viewing window with the attached tool box. By filling in the calibration area and double-clicking on it you are ready to go.

You then need to double-click in the area you need to measure and the area is calculated. You can have two such areas set and additional clicks will sum the new areas. As



an area is calculated you will see it change colour and if there is a gap in the boundary this colour change will leak out. If this happens you need to repair the boundary with a line drawing tool provided.

Unfortunately there is no undo feature – a useful command lacking in most but not all Acorn software. Instead you are told by the manual to load the image again, find the leak and then save it before proceeding. This can get a bit of a drag when you are measuring several areas and have to keep repeating the operations.

The area calculated can be adjusted by a correction factor if required and is shown in a separate window. The results can be printed or saved as a CSV file for further processing in a spreadsheet or incorporation into a word processor document. The set types can be given user editable names like rock, top soil or aggregate. The calibration must be done at least once per session as the calibration factors are deliberately not saved to disc. This is to prevent complacency and accident – it could be rather embarrassing if 10 times the required number of lorries turned up on site.

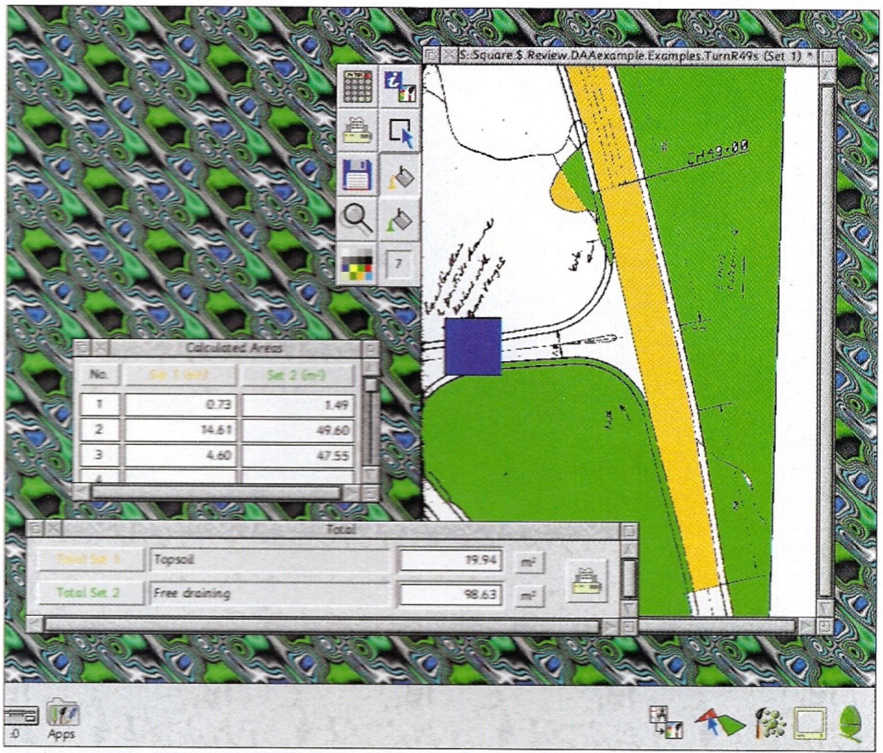
Once I got the hang of the package its operation was simple and straightforward. Having said that, however, I do have some serious worries about it. For a start the manual needs considerable revision. Having told you to click on the icon on the iconbar to get the main window it then abandons you with a point by point description of what sprite format you need and what each function in the tool box does.

If you need to be told to click the icon on the iconbar you also need to be told a lot more. I read the whole manual before running the program and I was still faced with the *what do I do now?* syndrome. What is needed is a step-by-step tutorial using some example sprites. It should start with a clear explanation of what you are going to do and then tell you the steps necessary to enable you to achieve it. It is clear that the manual writer is too steeped in the application to be able to step back and see what you need to do to learn how to use it.

However, there are some more serious concerns. When you are writing a flood fill algorithm for a bit-mapped image there is the choice of whether to use four-connect space or eight-connect space. This is the basic definition of how a gap is defined. In four-connect space only pixels directly above, below and to the left or right are considered to be connected. In eight-connect space these pixels and the ones diagonally adjacent are also considered to be connected. This is important to know when you are looking for gaps in lines to repair and it needs to be stated in the manual.

On the first copy I received there was a problem with some boundary pixels being incorporated into the measured area and some not. However, the author very quickly sorted this out and produced a new version that handles this in a consistent manner. This is one of the major advantages of the Acorn market – that a small problem can quickly be reported and action taken, you won't find that with Microsoft who would ask you to pay to get the next upgrade only for you to find that it still has the same problems.

This is a very specialised piece of software and, as far as I am aware, does not exist on other platforms, it is this sort of software that could even sell Acorn machines in a similar way that *Sibelius* does. However its very specialisation will ultimately limit its market size. If you would like to try this software there is a comprehensive taster on the Wardlaw Surveys' website.



S::Square.$.Review.DAAexample.Examples.TurnR49s (Set 1) *

Calculated Areas

No.	Set 1 (m²)	Set 2 (m²)
1	0.73	1.49
2	14.61	49.60
3	4.60	47.55
4		

Total

Total Set 1	Topsoil	19.94	m²
Total Set 2	Free draining	98.63	m²

Just how much topsoil do you need?

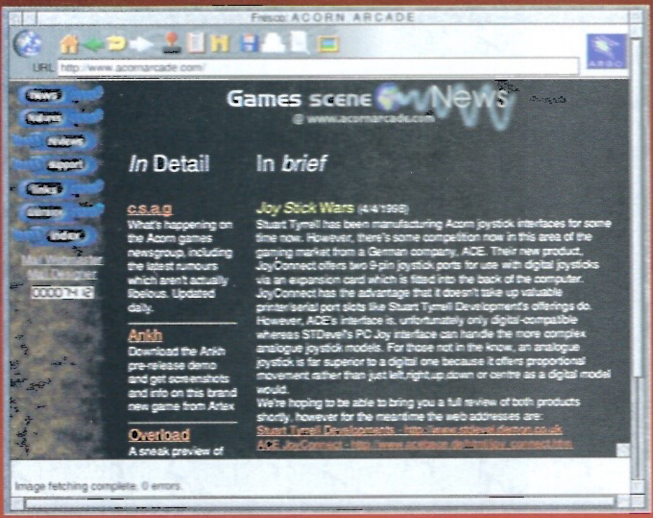
Product details

Product:	Digital Area Analysis (version 7.03)
Price:	£99 (exc VAT, inc. P&P)
Supplier:	Wardlaw Surveys, Wardlaw House, Kirkhill, Inverness, IV5 7NB
Tel:	01463 831214
Fax:	01463 831214
E-mail:	sales@wardlaw.demon.co.uk
Web:	www.wardlaw.demon.co.uk
Requirements:	Some type of image input device

Strolling through the AcornArcade

Steve Mumford reviews AcornArcade and brings you news of a forthcoming release

I think it's fair to say that the Internet is one of the key factors in the ongoing rejuvenation of the Acorn games market; the ability to put ideas across and draw people together has served both consumer and publisher well.



http://www.acornarcade.com/

Games scene News

@ www.acornarcade.com

In Detail

c.s.a.g

What's happening on the Acorn games newsgroup, including the latest rumours which aren't actually libelous. Updated daily.

Ankh

Download the Ankh pre-release demo and get screenshots and info on this brand new game from Artex

Overload

A sneak preview of

In *brief*

Joy Stick Wars (4/4/1998)

Stuart Tyrrell has been manufacturing Acorn joystick interfaces for some time now. However, there's some competition now in this area of the gaming market from a German company, ACE. Their new product, JoyConnect offers two 9-pin joystick ports for use with digital joysticks via an expansion card which is fitted into the back of the computer. JoyConnect has the advantage that it doesn't take up valuable printer/serial port slots like Stuart Tyrrell Development's offerings do. However, ACE's interface is, unfortunately only digital-compatible whereas STDevel's PC Joy interface can handle the more complex analogue joystick models. For those not in the know, an analogue joystick is far superior to a digital one because it offers proportional movement rather than just left,right,up,down or centre as a digital model would.

We're hoping to be able to bring you a full review of both products shortly, however for the meantime the web addresses are:

Stuart Tyrrell Developments - http://www.stdevel.demon.co.uk

ACE JoyConnect - http://www.aceltave.de/html/joy_connect.htm

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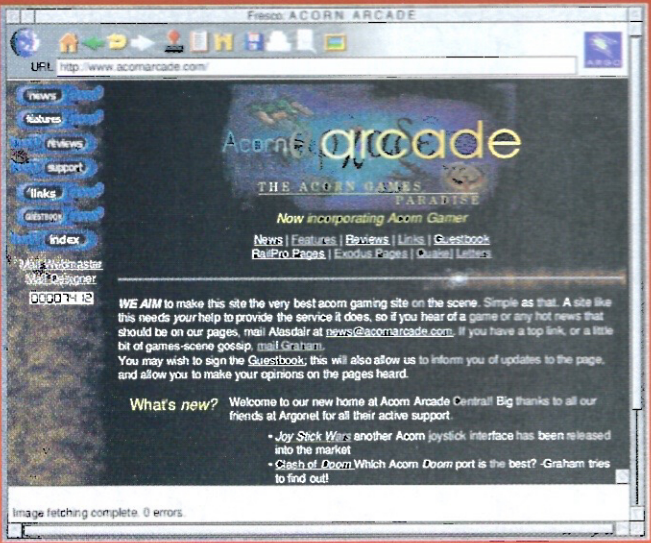

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WE AIM to make this site the very best acorn gaming site on the scene. Simple as that. A site like this needs *your* help to provide the service it does, so if you hear of a game or any hot news that should be on our pages, mail Alasdair at news@acornarcade.com. If you have a top link, or a little bit of games-scene gossip, mail Graham.

You may wish to sign the Guestbook; this will also allow us to inform you of updates to the page, and allow you to make your opinions on the pages heard.

What's *new*? Welcome to our new home at Acorn Arcade Central! Big thanks to all our friends at Argonet for all their active support.

- *Joy Stick Wars* another Acorn joystick interface has been released into the market
- Clash of *Doom* Which Acorn *Doom* port is the best? -Graham tries to find out!

Image fetching complete. 0 errors.

Software developers can receive almost instantaneous feedback on their plans, and the ever-increasing ease with which web space can be obtained has meant that the number of fanzine-style websites has ballooned, creating and sustaining interest in the patient Acorn gamer.

It's most encouraging to see that there are teams of people out there going out of their way to design and maintain high-quality sites. Coupled with the games boom we're just starting to experience, it gives me further cause to believe there's a particularly bright light at the end of our tunnel, and it's drawing near. I've been taking a look at a site named **AcornArcade**, put together by Alasdair Bailey and Graham Crockford.

AcornArcade is one of the newer sites on the Internet and, with hopes of becoming the leading site in its field, it faces a tough challenge. The pages contain up-to-the-minute news along with more general information, so as well as reading about the latest gossip on the Acorn games newsgroup you can flick the page to browse through a comprehensive FAQ on one of several major games.

There are interviews with key players such as Eddie Edwards and Jan Klose, and the team are trying to nurture their links with games producers in order to provide the reader with as much detailed information as they can. For instance, it's possible to download demonstration versions of both *Ankh* and *Exodus* from the site, as well as view screenshots from the games themselves.

If you want to stay up-to-date with the intrigue and drama that's unfolding in the Acorn games world, the comp.sys.acorn.games newsgroup is one place to start. However, as I'm sure many people have discovered, the discussions therein can occasionally lose their way. Although tangential threads can be fun to read, the seemingly interminable mud-slinging matches that occasionally crop up are quite the opposite. An occupational hazard, perhaps, but one that I could happily live without.

Here's where AcornArcade comes to the rescue; simply hop to their page and read the headlines as interpreted by the Arcade team. The news stories are both concise and informative, and a welcome relief if you can't face wading through the full set of messages. It's a great feature and one that does them credit, as the news stories are updated daily – the only other addition I'd like to see would be some method of linking directly to the articles themselves, perhaps via DejaNews.

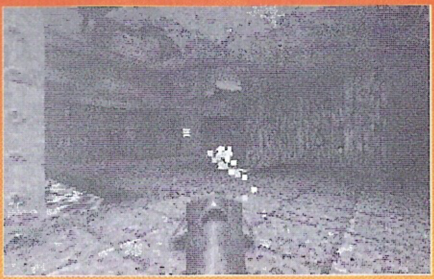
There's a lot more to see on the site, including an array of software reviews, features and links – Tim Fountain's *Exodus* FAQ definitely requires a visit if you're looking for some survival tips.

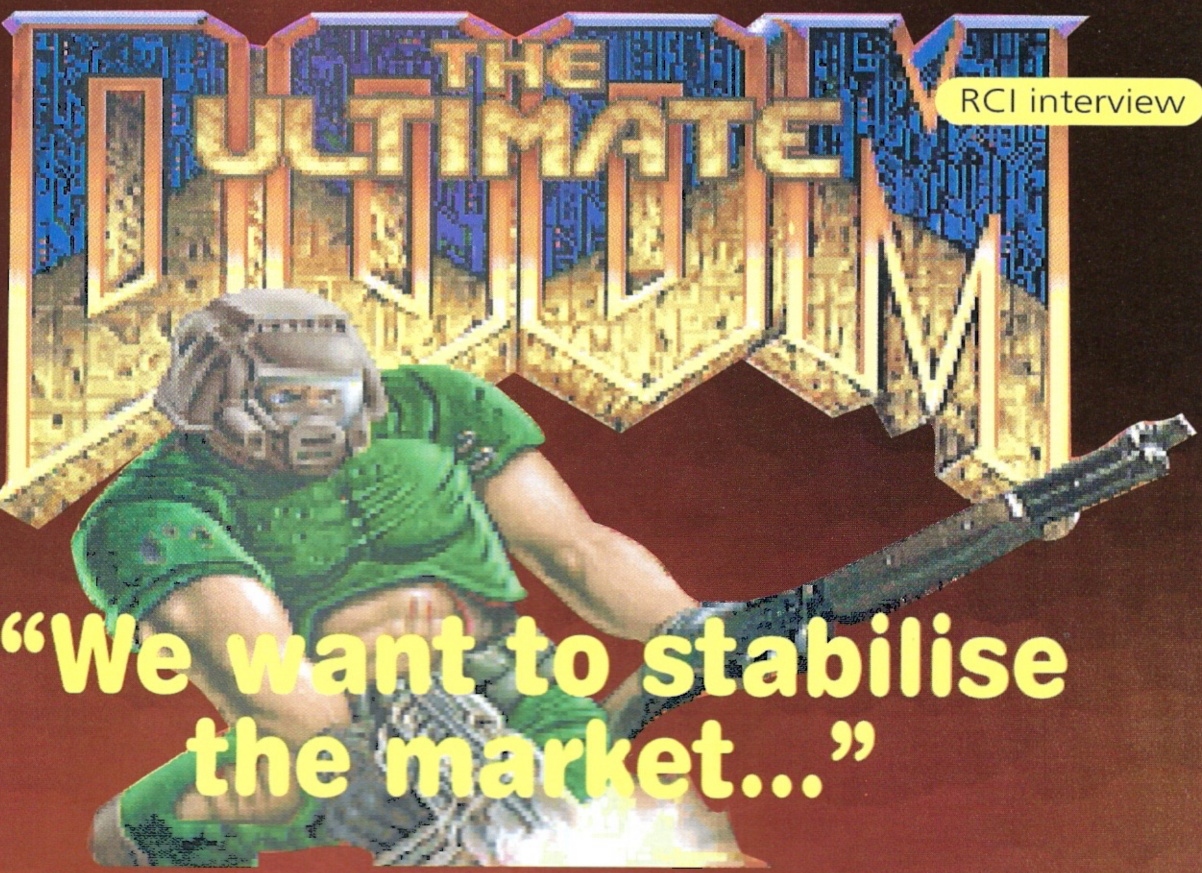
In summary, AcornArcade is a particularly professional site that contains a lot of useful and entertaining information, and is well on the way to forming its own 'corporate identity'. It's worth a look and the authors are more than happy to listen to any suggestions you may have in their quest for perfection. Point your browsers at *http://www.acornarcade.com* and enjoy.

And finally

Here's some late-breaking news for all fans of the three-dimensional shoot 'em-up – following on from the arrival of *AcornDoom*, R-Comp Interactive have announced that they will be releasing an *AcornQuake* bundle in the near future, either at the Wakefield Spring Show or immediately afterwards.

The pack will include the original *Quake* CD as well as the extra level sets *Malice* and *Q-Zone*. On top of all that, Andrew Rawnsley has some other major products up his sleeve that he hopes to be able to present to the public once the paperwork's in order. Needless to say, if you want to know more, keep your eyes on these pages as all will be revealed in the coming months.





"We want to stabilise the market..."

Concluding a two part interview, **Graham Nelson** talks to Andrew Rawnsley of R-Comp Interactive about the changing Acorn games scene

Can you tell us about taking ProAction under your own roof? It's extraordinary to think of the same company distributing RISC OS conversions of 'Doom' and BBC Micro 'Repton', though both are classics, I suppose.

We shared a stand at the Kegworth show, in late '97 and, while sales were fine for our usual wares, we were very aware that there were many users who didn't need the Internet, or PC cards – all they wanted was a bit of DTP and a few games. ProAction were looking for someone to handle marketing and support, so it seemed an ideal new market. We suddenly had something to offer the average A3010 owner, and ProAction had a little more muscle behind them.

My feeling is that we need to support some of the older RISC OS machines, at a price that people can afford. That's the beauty of the ProAction RISC OS range. It allows us to release compilations of games which might otherwise be lost, and update them to work on StrongARM machines. In addition, most are fairly small, making them ideal for NC machines, where download times for *Doom* would be excessive.

It's all about the target audience. Many users do not have the hardware to run *Doom*, and while I'd love them all to upgrade, if they can play games like *Repton* and *Nevryon* at affordable prices, then that's cool. Sure, we'd like to improve the graphics and sound of some of these games, and *Repton* is currently being updated further, but they are still *fun*. Risc PC versions still account for a lot of missing hours!

Are you ready to talk about your plans for a games co-operative?

At this stage I can only outline the idea. The Acorn games market collapsed around 1994/5, and since that point the only releases have sadly been under-funded and under-advertised. Lots of little companies have released just one or possibly two titles, but they haven't had the attention they deserve.

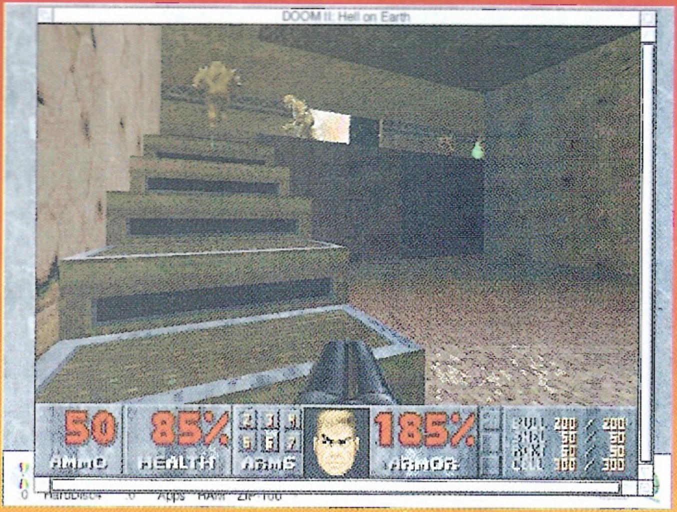
One of the reasons for doing *Doom* was that, hopefully, it would sell itself. We feel that other companies ought to be able to share in the goodwill that is being created among publishers in the outside world and, by working together, advertising costs and marketing expenses can be reduced. Traditionally expensive things like stands at exhibitions can be reduced in cost and we can restore life into the market. We're working with Artex Software already – we've been able to promote *Exodus* at some of the smaller shows which would be impractical for Artex to do themselves. By working together, we can make sure that these titles get purchased, and that more titles are produced.

Most games are unique, and most gamers have 20 or more games in their collection. This means that there are far fewer conflicts of interest than elsewhere. It would be very difficult to organise cooperation in the DTP or wordprocessor market, as products rapidly become mutually exclusive. But with games, each is special. By promoting *quality* products we want to stabilise the market and bring back some reliability to the proceedings.

What's the next move, and where do you see yourself in a year's time?

R-Comp are still firmly committed to Web-authoring software, with a new range slated for mid-98. As for R-Comp Interactive, *PCSound Pro 2* will be out at Wakefield, and two game conversions are at a playable state on my hard drive as we speak, but the paperwork isn't finalised yet. What I can say is that the people we've worked with on *Doom* have been impressed by the Acorn market, and the 'serious' approach we've taken to it all.

This can only be good news for Acorn users, and I for one am pretty excited! The future's bright – the future's green. And although I'd class myself as an adventure/role-playing game type rather than an arcade fan – anyone remember *Might and Magic*? – I've found myself spending more gaming time on my Risc PC over the last three months than on my PC, which was bought for games.



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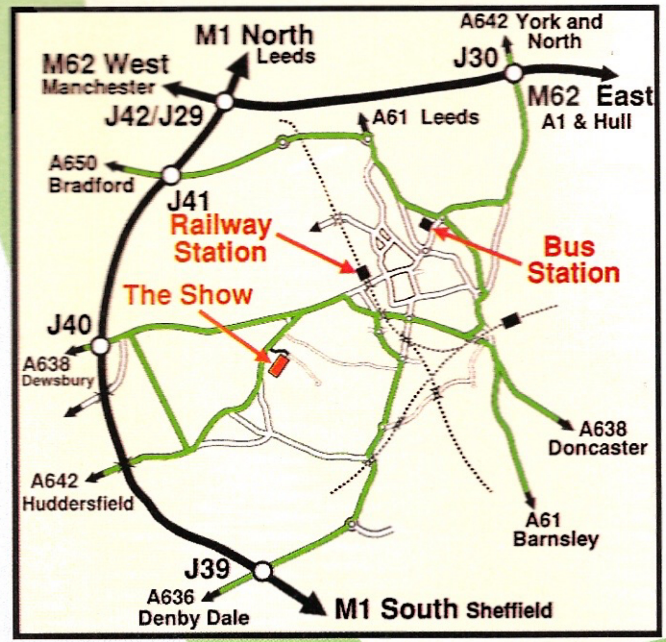
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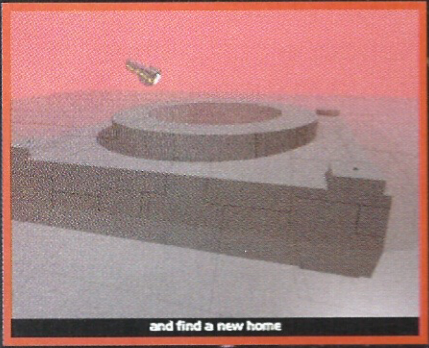
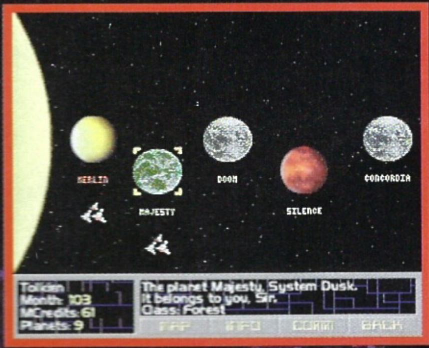
Win a copy of Exodus

Artex Software, the creators of the forthcoming products *Ankh* and *Tek*, have kindly donated five copies of their space-based game of conquest, *Exodus*, for us to give away

Exodus contains a unique blend of strategy and arcade action. The game puts you in charge of a group of refugees from Earth and follows your progress as you try to claim and develop a new home.

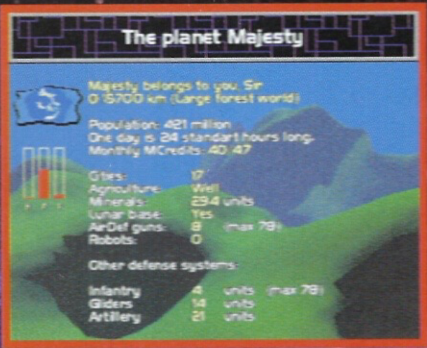
Full review on page 64 & 65 of the Christmas 1997 issue of Acorn User.


and find a new home



Tolkien
Month: 103
MCredits: 61
Planets: 9

The planet Majesty, System Dusk.
It belongs to you, Sir.
Class: Forest


The planet Majesty

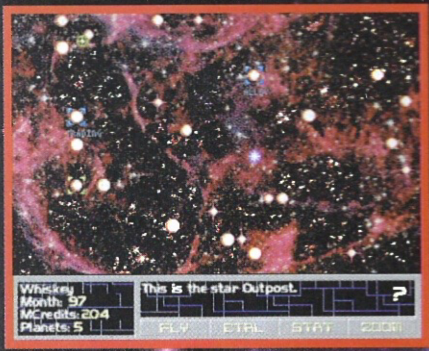
Majesty belongs to you, Sir
Ø 15700 km (Large forest world)

Population: 421 million
One day is 24 standart hours long.
Monthly MCredits: 40.47

Cities:	17	
Agriculture:	Well	
Minerals:	294 units	
Lunar base:	Yes	
AirDef guns:	8	(max 78)
Robots:	0	

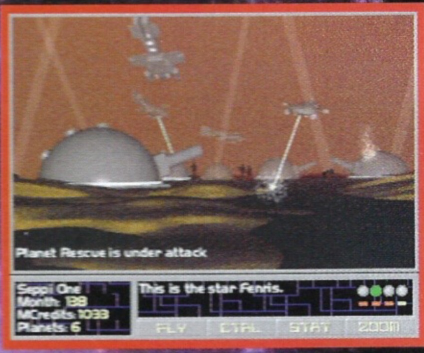
Other defense systems:

Infantry	4	units	(max 78)
Gliders	14	units	
Artillery	21	units	



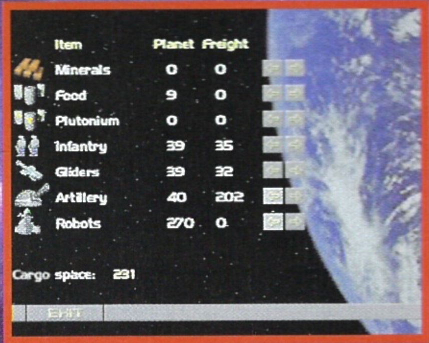
Whiskey
Month: 97
MCredits: 204
Planets: 5

This is the star Outpost.

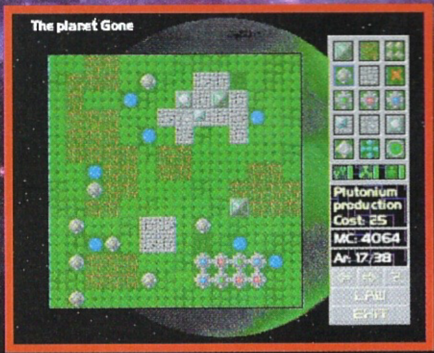

Planet Rescue is under attack

Seppi One
Month: 138
MCredits: 1033
Planets: 6

This is the star Fenris.


Item	Planet	Freight
Minerals	0	0
Food	9	0
Plutonium	0	0
Infantry	39	35
Gliders	39	32
Artillery	40	202
Robots	270	0

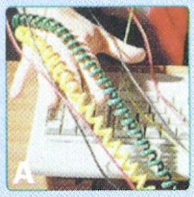
Cargo space: 231

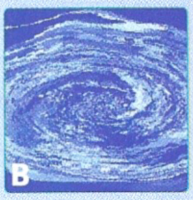

The planet Gone

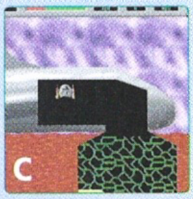
Plutonium production
Cost: 25
MC: 4064
Ar: 17/38

How to win

All you have to do is identify these three pictures from the magazine, complete the entry form and send it in before 18 June 1998. The first five correct entries to be pulled out of the sack will win a copy of *Exodus*.


A


B


C

The winners will be announced in the August issue. The editor's decision is final.

Entry Form

Name
Address

Postcode
Telephone

	Feature/Product	Page no.
A		
B		
C		

Now send this to *Acorn User Exodus Competition*, IDG Media, Media House, Adlington Park, Macclesfield, Cheshire, SK10 4NP

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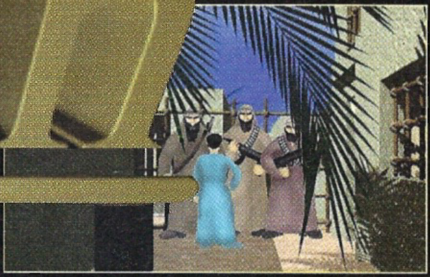
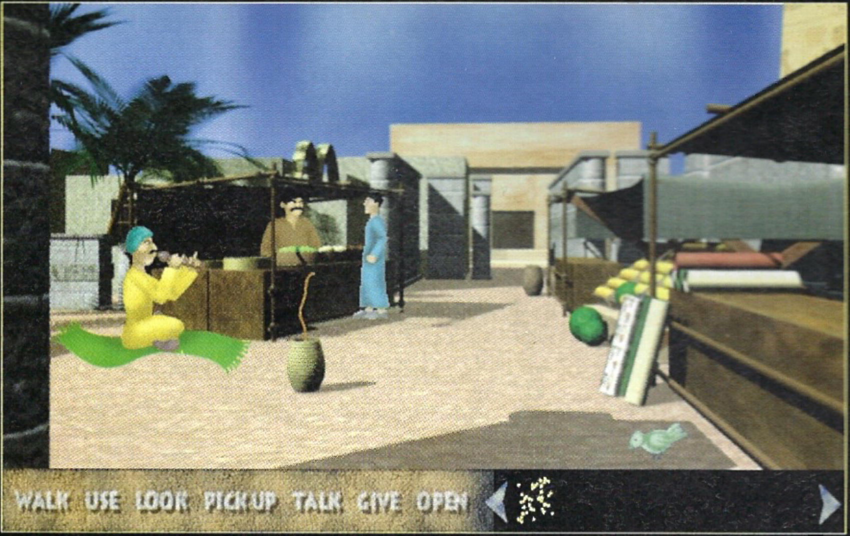
Ankh



Graham Nelson previews *Ankh*, a new graphical adventure

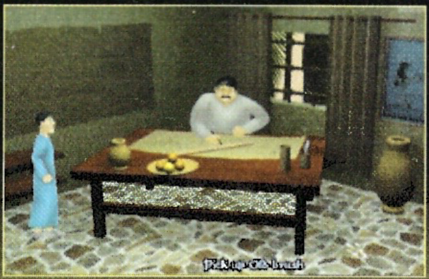
In a text adventure game there's always the text: Even if most of what you write in reply is pretty simple – 'take spoon' or 'look' is about the level of most of it – you can always ask, if the need arises, to 'tie scarf to elephant's leg' or 'tell the robot to go north and then press the triangular button'. Text is concise and flexible – I don't think there are many graphical games which could accept that last command, because how would you phrase it, without words?

Some of the games called 'graphical adventures' are really text-adventures with a set of postcard-like pictures of the main places visited – Magnetic Scrolls' games *The Pawn* and *Jinxter* may be the most famous examples. Sometimes these games use the mouse to save on typing – click on the right-hand-side of a compass for 'go east' and so on. But a true graphical game ought to have graphic communication – which means, some way of gesturing involving the pictures themselves, just as a player of a text game would talk about whatever is mentioned by the computer.



When Apple introduced the first home-computer mouse, using it was famously compared to 'painting with a rock'. Gestures are clumsy compared to speech – what movement of the mouse would naturally mean 'tie scarf to the elephant's leg'? Perhaps a scarf-icon could be dragged to that part of the picture of the elephant. But already that implies a limitation: The graphical interface would have to assume that the only thing you can do with a scarf is to tie it to something.

It's uncomfortably like resorting to a general-purpose command like 'use': 'use scarf', 'use key', 'use door' (to open it) and so on. Text games abandoned 'use' many years ago, but it's hard to see how a graphical game can avoid it. With a limited number of things to click on, and a limited range of possible gestures, a truly graphical game is always going to box you in. On the other hand though, it makes it possible to indicate places – corners of rooms, gaps behind furniture – in a specific and easy sort of way. So the standard way to present a graphical adventure involves having the main character on-screen and able to walk from one part of the picture to another. Click on the barrel and she will walk to it, and so on. This idea goes back at least to the long-running *King's Quest* sequence of games for the PC, but it's seldom been tried on Acorn machines.



Ankh

These days 'Ankh' is most familiar as the first half of Terry Pratchett's fictional city of Ankh-Morpork, but it's also the Egyptian symbol of life (a cross with a top loop) and so the name of Artex's new work in progress. The preview version, downloadable from the Internet, has no sound and wonky English but it's a smart demonstration for all that. The highly stylised, half-cartoon graphics are mostly coherent, which is the mark of success in graphical adventure games – the great pitfall is to have painting-like backdrops depicting places, and then cartoon-like movable objects sitting on top, so that the foreground and background of what's on the screen seem to have nothing in common.

The story is a rag-bag of legends and clichés, so that it's difficult to say, for instance, what the year is – a market-place with a well, where a slave is being sold, and mention of Pharoahs on the one hand, a trio of Libyan terrorists on the other. These gave me a certain feeling of queasiness: I hope presenting Arabs in this stereotypical way, with machine-guns, mullah-like beards and robes will one day seem as crude and tasteless as the golliwogs in children's books of the 1930s seem now. And I do have to say that, with all this effort going into the graphics and puzzles, it seems only fair to expect a plot-line which makes at least as much sense as the average straight-to-video movie.

I don't want to be too hostile though, because *Ankh* is quite good fun. Its interface does have a 'use' button, but it's in the form 'use X with Y', which offers some degree of flexibility. Conversation with people consists of being offered a choice of things to say. Sometimes this made me feel trapped – because I didn't want to say any of those things, or I just wanted to walk away – but more often it was entertaining. One of the options is almost invariably unthinkably stupid: 'Oh, well, you'd better go ahead and kill me then.' *Ankh* needs tidying up, but it has promise.

Contact details

Product: Ankh
Company: Artex Software
Tel: + 49 [0] 69 7103 3086
E-mail: artexsoft@aol.com
WWW: http://www.artex.oaktree.co.uk/

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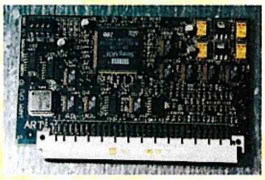

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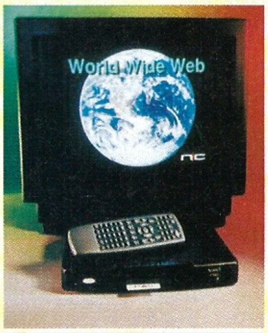

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A pan-European initiative with British support team SCET (the Scottish Council for Educational Technologies), it has three main goals: To increase awareness of the value of the Internet, to enhance existing networks and establish new ones, and to promote partnerships between public and private educational organisations.

Netd@ys '97 was the pilot and 15,000 schools took part in over 700 events. This year the organisers are promising even more with the Netd@ys Support Team producing postcards, posters, hybrid folders, a catalogue of projects and, of course, a website (www.netdays.org) full of ideas and contacts. The project will take off with a Netd@ys Week in October. For more info contact Shirley Grant at the Netd@ys '98 Support Team at SCET on 0141-337 5020 or e-mail s.grant@scet.org.uk

Boarding out

If you need, or want, to send your kids to boarding school where do you start? Which School (01950 620575) have been producing a PC CD-ROM of independent schools, day and boarding, for a number of years. There is another option though as the BEA or Boarding Education Alliance have just created a website – www.boarding.org.uk – with information on over 180 boarding schools from all over the country offering full, weekly and flexi-boarding. Promising impartial and free advice, it lists schools by location as well.

The Alliance was established last year with the mission to dispel outdated images of British boarding schools and illustrate the breadth and relevance of boarding to a wide audience. With this in mind the site also includes case studies on boarders of all ages and backgrounds and gives advice to parents on how to choose a school. As well as information on individual schools there are links to the Independent Schools Information Service, Schools NET and the UK Independent Schools Index.

BEA National Information Service
Tel: 0171-388 8866

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For less mobile users, a range of fittings are available to clamp the keyboard to wheelchairs or to desks. In addition, timed delays can be incorporated for students with spasmodic movement. And the cost? £177.

The Concept Keyboard Company
Tel: 01705-372233

More PinPoint

There's a new datafile available from PinPoint users called *StorySearch.* Combining key elements of the Literacy National Curriculum for Key Stage 3 it allows children to interpret their favourite stories and make a database about each character, genre, theme, time, places and authors from various reading matter – *StorySearch* you can generate a database record on when a book was published, other titles by the author, narration styles, types of characters and so on. You can then develop searches along the lines of how a particular author narrates and the differences between the themes used in books. Logotron say that the end result is that children not only become familiar with all the literacy forms but they also gain valuable experience with databases. All you need is a copy of *PinPoint 2* and £15 for a single user licence.

Logotron Tel: 01223 425558

Contacting Xavier

Please note that the direct phone line for Xavier is 01248-382616.

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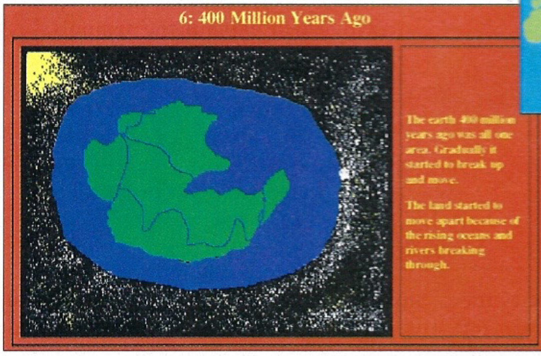

6: 400 Million Years Ago

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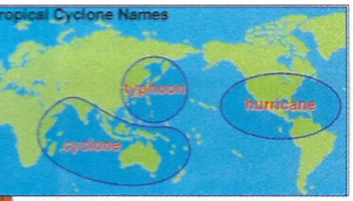


Four new activities for 3 to 15-year olds have been added to ArgoNet's free educational website, *Argosphere.*

Bo Bear is a picture and word matching activity for younger surfer. It develops the ability to structure a sentence by embarking on an interactive sentence completion exercise and a missing letter search.

Club Fashion lets you select from a range of fabrics to dress characters in. The idea is to encourage experimentation with design and to discover the different merits and properties of materials used for clothing.

On a different tack, *Whirlers and Swirlers* provides information on hurricanes, tornadoes and whirlwinds, and *Planet Earth* presents facts and figures on how our world was formed.

Argosphere
WWW: http://www.argosphere.net

Contacting me

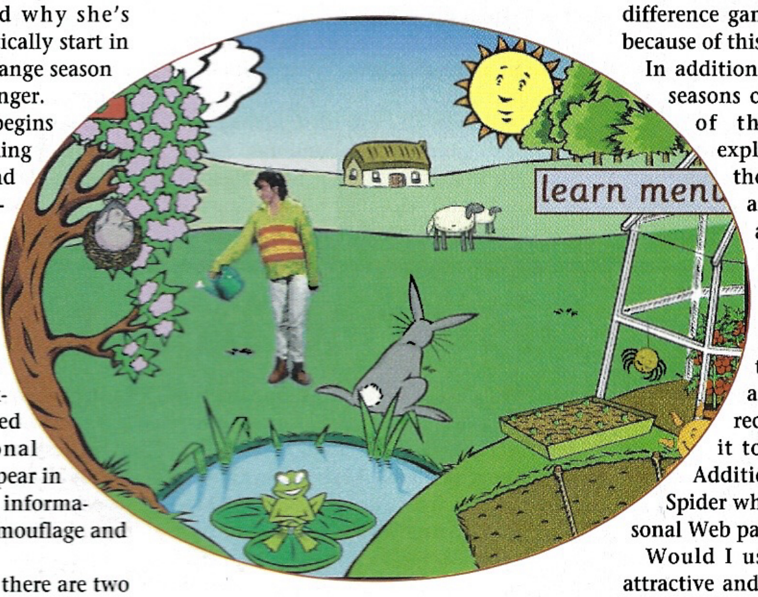
Many thanks to Geoff Preston for his insights and contributions over the years, Pam Turnbull has now taken over the education column so any questions, comments or information should be sent to *Acorn User*, IDG Media, Media House, Adlington Park, Macclesfield SK10 4NP or e-mail: aueduc@idg.co.uk

The round *window*

Pam Turnbull takes a trip *Through My Window* to see what's on the other side

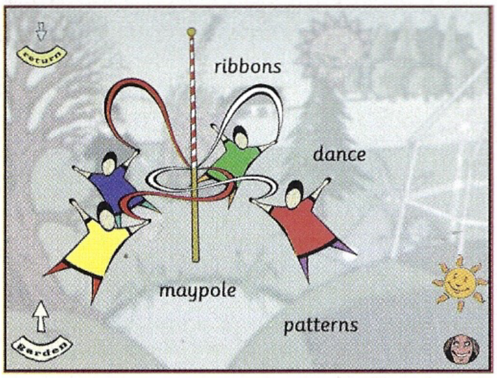
Aimed at the under 7s, this is a program which takes a range of subjects from living things, to weather and festivals, and wraps them up in a colourful and interesting manner. The odd game is thrown in to practice colour and letter recognition as well as sequencing, ordering and measurement. This allows teachers (or even parents) to reinforce what is being taught at Key Stage One.

Mixing fun illustrations with animation, photographs and video can look horrendous but here it works well although the video cut-in can be a little dodgy at times. You start in the garden where Katy will tell you about the weather and why she's dressed as she is. You automatically start in Spring, but you can always change season by clicking on the Season Changer.



Staying with Spring, Katy begins by pointing out things or making comments about the scene, and it's her voice which will provide initial factual input on all the subjects. Click on the bird or frog and you'll be told about their lifecycles. There is also the option of listening to a story. These stories pop up throughout the package and consist of six narrated video clips giving additional details. The bird and frog reappear in other seasons too giving you information on migration, feeding, camouflage and hibernation.

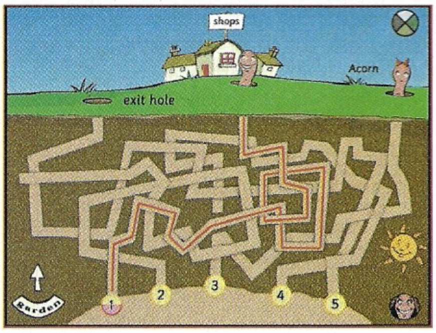
As well as the video stories, there are two other forms of relaying information. In the case of the sheep you're told why animals reappear in the fields in Spring and as the narration continues key words appear on screen in a large, clear and rounded font. Alternatively photos or animations are presented as mini-tutorials which you can listen too all the way through or reverse step-by-step to hear pages again.



Other animals appear such as the rabbit, dormouse and bee. The rabbit will take you to a sub-section on festivals – Mayday, Easter, Harvest, Thanksgiving, Hallowe'en, Bonfire Night, Christmas and New Year – while the dormouse will open a section on hibernation, the bee another on pollination, all depending on the season you're in.

Clicking on the clouds in different seasons will open different areas. For instance in Spring you find yourself in the water cycle and in Winter there are different types of storm to find out about. However, you can always access the Weather Map which will explain the symbols we all see on the TV reports. Click on the Sun and Katy will tell you how hot or bright you can expect it to be in a certain season and in Spring she'll show you why we have seasons using keywords and animation.

For each season there is a play and a learn garden. The former provides games some of which ask you to practice what has been discussed, such as which clothing is best for a skiing trip, or which direction a wind is blowing from. Others use skills from different parts of the curriculum, such as matching or colour recognition. However, there is no level structure and differentiation – this will depend very much on the teacher and his or her use of the activity sheet book – which is very good by the way.

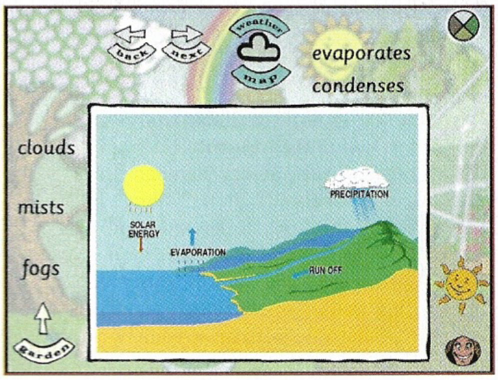


If I have any criticisms it is that there is not enough interaction or any recording. Some of the activities are of the either/or variety, while others don't give any feedback on where you may be going wrong or hints as to the right answer. The spot the difference game was incredibly frustrating because of this.

In addition one difficult concept of the seasons changing due to the orbiting of the planet was not well explained by the diagram, which though pretty was not helpful, and children clicking haphazardly often got questions right without understanding why.

Each season is different and full of life, from learning the colours of the rainbow to adjusting the water and sun required by a plant if you want it to bloom within seven days. Additional support is given by the Spider which will connect you to a seasonal Web page on Anglia's site.

Would I use it? Yes. Children find it attractive and easy to navigate and it contains a wide variety of information on history, maths, geography, science with the activity sheets adding music and PE among others. The language is clear – new and technical terminology is explained in words and pictures. Just add a teacher.



Product details

Product:	Through My Window
Ages:	4-11 (Key Stage 1&2, Scottish 5-14 Level A-C)
Price:	£40
Publisher:	Anglia
Tel:	01268-755811
Web:	http://www.anglia.co.uk

Alphabetics

Geoff Preston looks at three packages to help children pick up basic skills

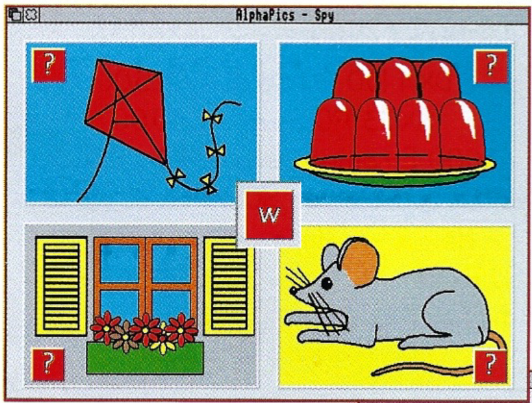
AlphaPics is aimed at KS1 children who are learning to match letters to sounds and/or pictures. It keeps track of performance and can print records of how pupils are doing.

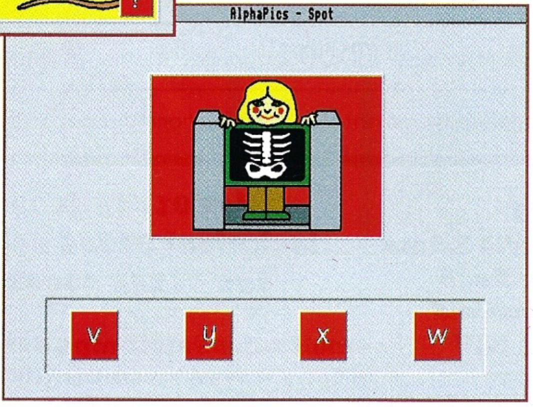
The program is simple in the extreme, but very effective. There are two activities which children can use. *Spot* displays a picture of an object and below, five boxes each containing a letter. The aim here is to select the letter which corresponds to the initial letter of the object. Each letter sound can be heard by clicking the right hand mouse button over a letter.

Spy is the same, but 'the other way around'. This time you get four pictures and you must select the one that begins with the letter displayed in the centre. Sound is used here too by clicking the right hand button on a picture.

NumberPics is virtually identical to *AlphaPics* except that it's about numbers. Again, there are two exercises designed to help children learn the value of numbers up to 10. *Count* displays a picture of a quantity of identical objects and five boxes, each containing a number – the child has to select the correct number.

Find works the other way, by placing a number in the centre of the screen and around it are four pictures showing different quantities of an object. The aim is to select the picture containing the same number of objects as the number at the centre.

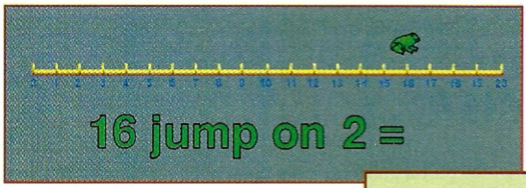




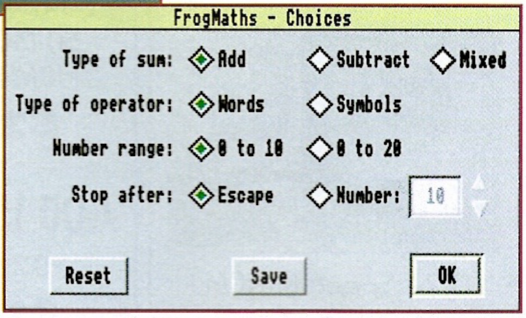
I still remember sitting my son on my lap and working through an almost identical program on a BBC computer. That was before he was two – he's now almost 14. I firmly believe that early exposure to programs of this type are of enormous benefit. So, despite the idea for both programs not being new, they are still relevant. The programs cost £25 each and are available from Topologika who may be contacted on 01326-377771 or fax 01326-365755.

Jump to it

Opinion appears to be divided as to the merits of using the RISC OS environment for programs for the very young. Topologika apparently decided that they should, others think they should not. There are points in favour of both and I'm not saying which one I would choose. *FrogMaths* does not have a RISC OS environment for the actual activity, although there are RISC OS dialogues and menus for the various choices.



16 jump on 2 =



FrogMaths - Choices

Type of sum: ● Add ○ Subtract ○ Mixed

Type of operator: ● Words ○ Symbols

Number range: ● 0 to 10 ○ 0 to 20

Stop after: ● Escape ○ Number: 10

To start, click on the program's icon and you get a picture of a frog on a ladder. The user is then asked what rung of the ladder the frog will be on if s/he jumps another so many rungs. That's it. Each time a sum is finished, another is displayed. Brilliantly simple.

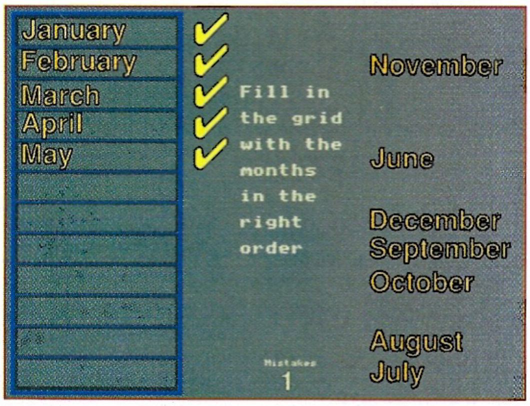
Various options are available including the number range and whether you want subtraction, addition or mixed sums.

FrogMaths is by Rob Hemmings and costs £6 for a single user and £12 for a site licence.

And for free...

If you choose the site licence option, you also get a free copy of *Calendar*. *Order* would, I feel, be a more suitable title as this program has nothing to do with dates, but the four seasons, the days of the week and the months of the year.

There are two exercises available. The first, *Spelling*, involves typing the missing letter from each of the names in the set. (For example the twelve months, four seasons or seven days of the week.) Each time the activity is started, the chosen names are displayed with a random letter missing. Pressing the correct key inserts the letter and completes the word. You may choose either one, two or three missing letters.



January ✓
February ✓
March ✓
April ✓
May ✓

Fill in the grid with the months in the right order

November
June
December
September
October
August
July

Mistakes 1

Order displays the names of the chosen set on the right of the screen randomly. The user must drag them into the correct position on the grid. I feel there is a fundamental flaw in this program: It assumes the first season is Spring and if you drag Spring into any but the first box, you'll be wrong. Similarly, Monday is given as the first day of the week. I think it would be less confusing if one of the names were already located in the grid and then the others could be fitted around it.

Rob Hemmings may be contacted on 01704-573210 or e-mail at rhemmings@argonet.co.uk

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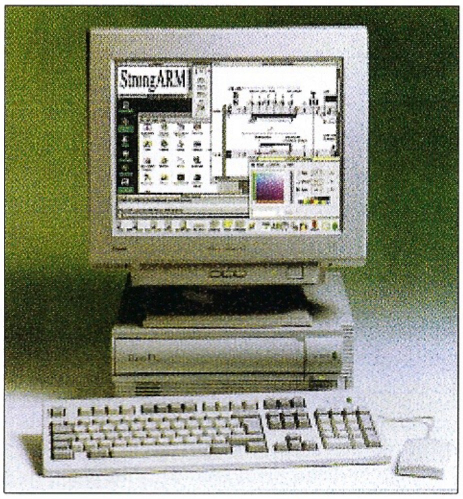

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Acorn CENTRE OF TECHNOLOGY

Sources of information

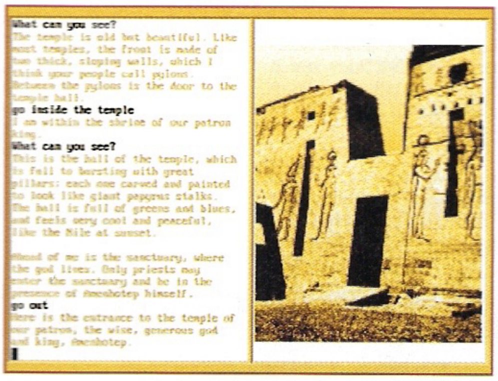
You need facts and figures on history – which period? This month **Pam Turnbull** takes you on a trip through the ages in our history software round-up

The teacher: The term's topic is Victorians – where do you start? Look in the resource box to see what can be recycled from previous years. Which organisations can loan appropriate items? Are there any out-of-school activities or computer programs available to make the subject come to life? Unfortunately the box is empty except for the broadcast notes for a video you no longer have.

And the parent: It's Sunday afternoon and your child appears waving a piece of paper. If you're lucky it's only an empty egg box they need, but more likely it's an entire research project requiring completion. Libraries are shut so that leaves you, a computer and a child in the first stages of panic.

If these situations sound familiar then read on. In this occasional series, we'll be looking at products available for school and home. Space doesn't allow us to be include every package, but we hope to give you a good taste of the type of product available and make your life easier in the process.

Ancient civilisations



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What can you see?
The temple is old but beautiful. Like
most temples, the front is made of
two thick, sloping walls, which I
think your people call pylons.
Between the pylons is the door to the
temple hall.
go inside the temple
I am within the shrine of our patron
king.
What can you see?
This is the hall of the temple, which
is full to bursting with great
pillars: each one carved and painted
to look like giant papyrus stalks.
The hall is full of greens and blues,
and feels very cool and peaceful,
like the Nile at sunset.

Ahead of me is the sanctuary, where
the god lives. Only priests may
enter the sanctuary and be in the
presence of Amenhotep himself.
go out
Here is the entrance to the temple of
our patron, the wise, generous god
and king, Amenhotep.
```

Ancient Egyptians

Enclosed in a tomb there's a wall presenting a chronological picture of Egypt past and present. Turn to the virtual world where there are seven people to meet, items to find and problems to solve as you find out about their lives. Success means that you can leave the tomb and the Pharaoh's soul is released to the afterlife. *Anglia Multimedia (0500-600191) Price: £40*

ArcVenture II: The Egyptians

With a computer to help with identification, your work on an archaeological dig moves quickly. And when you find something the computer can't identify you're transported back in time to find out first-hand by questioning people who lived and worked at Giza. *Sherston Software (01666-840433) Price: £34.95*

Ancient Greece

Again using adventure as the vehicle, you go back in time to seven sites: Knossos in 2000 BC, the Siege of Troy, Mount Olympus, Olympia, Marathon in 490 BC, Athens and Delphi. There's a factfile for each place, plus problems and things to do as well as a quiz to play at Delphi. *AVP (01291-625439) Price: £25*

The Aztecs

As they fly over the Bermuda Triangle in their uncle's helicopter, two children are transported back in time where they are faced with a series of puzzles and challenges based around Aztec culture. A great adventure plus loads of source materials and extension work. *Sherston Software (01666 840433) Price: £44.95*

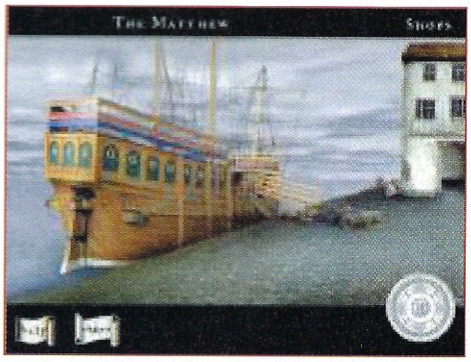
Landmarks: Egypt

Developed from the topics in the *Landmarks* BBC TV series. It is 1250BC and 11-year old Shef – the son of a scribe – is living in the Artisan's village. Shef will show you around the Temple of Amentoteo and the tent of the dead. You can watch the artisans working in the stone quarry and find out about everyday life. Using text commands the more questions you ask the more you discover. Another title in this series is about the Aztecs. *Logotron (01223 425558) Price: £27*

ZigZag: Greeks

Bringing history alive, with animations and puzzles, this was created for the BBC schools TV series, but can be used independently. Set in Agora – a market place in ancient Athens – you have to make a spearhead, candle panpipes and cheese, as well as finish the temple building, and examine and test the workings of the temple door. There is a fresco and a sculpture of a discus thrower to finish, as well as olives to press. Comes with a teacher's guide and an activity book of curriculum ideas that can be photocopied. *Logotron (01223 425558) Price: £34*

Discoverers, invaders & settlers



ArcVenture III: The Vikings

There are eight mystery objects to find each with an adventure behind it. Three are easy, three more difficult and two are very hard. You have 14 days to find out as much as you can and there is a mass of information about the era from iron working to language, farming and legends. *ArcVenture IV: The Anglo Saxons* starts with a dig in West Stow, Suffolk. *Sherston Software (01666 840433) Price: £34.95*

John Cabot & the Merchant Venturers

May 2 1497 and John Cabot left Bristol for the Orient but landed on the American Continent, the New Founde Landes. 500 years later and a reconstruction of the Matthew made the same journey. Stock the ship with navigation aids, provisions, maps and information on explorers and then explore the reconstructed vessel. *Anglia Multimedia (0500 600191) Price: £40*

Landmarks: Columbus

Children spend two days aboard the Santa Maria with 14-year old Pedro, the ship's cabin boy. They learn about his life on board ship, meet his shipmates and even catch a glimpse of Columbus himself. Although Pedro doesn't know it, the Santa Maria is nearing the end of her journey – perhaps the children will have the opportunity of exploring the Indies with him! *Logotron (01223 425558) Price: £27*

The Vikings

This uses photographs, illustrations, audio clips and video and characters from York's Jorvik Centre. The aim is to let you discover everything you can about these people as invaders and settlers between 786 and 1266 by talking to them and following their everyday lives. *Anglia Multimedia (01268 755811) Price: £40*

ZigZag: The Anglo Saxons

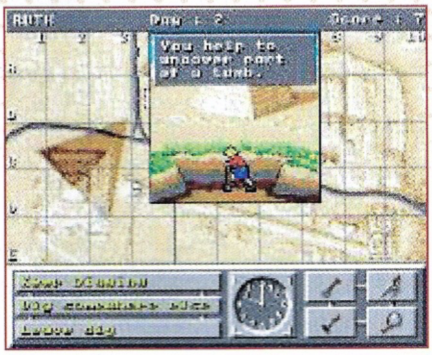
Anglo Saxons looks at the environment in general rather than at one archaeological site. Move along paths and into buildings where there are objects to animate or to be dragged where you want in nine specific locations. There is also a Vikings title where you load provisions on a Viking ship and catch the smoke fish, finish a bone-carved lady's comb and press coins in a mint, harvest newly grown corn in the fields and thresh it in the barn. *Logotron (01223 425558) Price: £34*

➤

Romans in Britain

Arcventure I – The Romans

Centred around an archaeological excavation of a Roman Villa this follows the same format as others in the series. Objects must be dug from the ground using the right tools, with the computer sending you back in time to find the information it doesn't possess about this time period and the objects you've uncovered. *Sherston Software (01666 840433) Price: £34.95*



You help to uncover part of a tomb.

Frontier 2000

Explore the border regions around Carlisle over the last 2,000 years. Covers: Hadrian's Wall, Roman Times, Mary Queen of Scots, Solway Firth, Bonnie Prince Charlie, Civil War, Railways, Border Rivers, Victorian Britain, Religion and Beliefs, Map Reading, and Genealogy. *Cambridgeshire Software House (01487 741223) Price: £29.95 (floppy) or £49.95 (CD-ROM)*

Journeys into History

Takes you to Hadrian's Wall, Lindisfarne, Durham and Darlington, It covers the Roman occupation to early Christian times, medieval times and aspects of Victorian life. Each journey asks children to find information and think about the people who lived then. *Granada Learning (0113 222 8360) Price: £69.95*

Romans

Transports you to a Roman town. Hear from the townsfolk, walk into their homes and meeting places as you take on the role of three tradesmen of the day. *Anglia Multimedia (01268 755811) Price: £40*

ZigZag: The Romans

Set in a Roman villa in England you must guide your figure around the 3D view, entering buildings and other locations to reveal layers of detail. But you are here to work, preparing a bath for your master, collecting honey from the hives after luring the bees away, completing an ornate mosaic floor in the Atrium. Puzzles often need more than one item to complete them and logic as well as history is covered. *Logotron (01223 425558) Price: £34*

From the medieval to the Elizabethan

Betsi

An adventure set in England at the end of the Tudor period. Failed hunting dog Betsi needs you to find her a new home. During her travels you meet different people from a variety of backgrounds, explore the buildings, hear the sounds and listen to the worries of the day. *4Mation (01271 25353) Price: £34.50*

Exploring Castles

Produced with help from English Heritage, this introduces both individual castles and a large selection of buildings through the British Isles using photographs, drawing, animation and video sequences. Visit selected castles for detailed study, search for local castles, play video sequences explaining castle life and study examples of defensive and offensive weaponry. *Anglia Multimedia (0500 600191) Price: £40*

Landmarks: Elizabeth 1

Betsy is a hard-working housemaid in an Elizabethan manor house which is about to receive a visit from the Queen. As Betsy helps the household prepare for this great honour, she introduces children to the busy 'below-stairs' world of the kitchen, dairy, stables, outbuildings and garden plots. *Logotron (01223 425558) Price: £27*

Medieval Realms – Britain 1066 to 1500

A huge database of original source material containing nearly 1500 records. It consists of pictures of manuscripts, sites and artefacts, texts in English, music and sound clips. When it comes to the dates there is an actual estimated date of the event which each item relates to. This is helpful for pulling off resources for projects, for example, there's an illustration of the martyrdom of Thomas Becket produced around 1480 relating to 1170, the year of Becket's death. *Granada Learning (0113 246 1528) Price: £99.99*

Life in Tudor Times

Visit six areas of Tudor Life – monarchs, town and country life, the Armada, art, exploration and religion – via a time-travelling telephone box. It's light-hearted in its approach and there is a game and a factfile on each area. A quiz tests you've been paying attention. *AVP (01291 625439) Price: £25*

The Tudors

Covering the monarchs, everyday life, religion, seafaring, the Armada and Shakespeare, among others, this CD-ROM allows you to search and also poses questions on the era. *AVP (01291 625439) Price: £39.50*

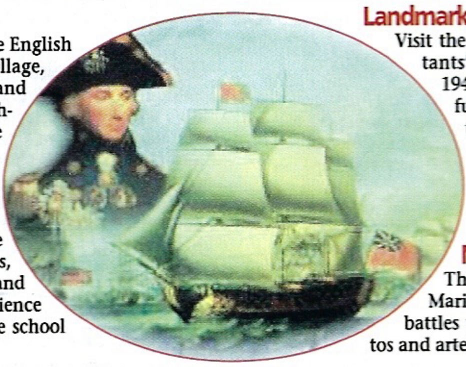
War

Landmarks: The Civil War

John lives in the small village of Langport during the English Civil War. The fighting has not yet reached the village, but Royalist soldiers are guarding the river crossing and there are rumours that the Puritan Army is approaching. In the meantime, John introduces you to the 17th century. *Logotron (01223 425558) Price: £27*

Landmarks: The Second World War

The year is 1940, and 10-year-old Jean is the children's guide to Westbury-on-Sea. As you explore the town, you'll learn about gas masks, air-raid shelters, and evacuees from London; see soldiers, air balloons and Spitfires; hear Winston Churchill on the radio; experience an air-raid and discover an unexploded bomb in the school playground. *Logotron (01223 425558) Price: £27*



Landmarks Microworlds: The War Years

Visit the small village of Westerleigh and share the inhabitants' experiences at various times between 1938 and 1945. See how the environment changes from a peaceful village, through the development of an airfield, the arrival of evacuees and finally victory. You explore the animated environment from above, lifting the roof off buildings to see inside and ask questions of the inhabitants. *Logotron (01223 425558) Price: £27*

Nelson and his Navy

This is produced in association with the National Maritime Museum. You explore the Victory and naval battles with animation, video, audio and paintings, photos and artefacts. *Anglia Multimedia (0500 600191) Price: £40*

Victorians

How We Used to Live: Early Victorians

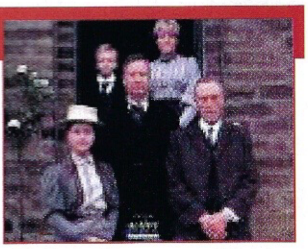
Based on Channel 4's series, this contains TV footage as well as text, animation and stills covering the lives of the Coogan and Harrap families in 1845. *Late Victorians* is also available looking at life between 1849 and 1915, with a third title *How We Used to Live: 1936-1953* also available. *Granada Learning (0113-222 8360) Price: £59.99*

Landmarks: Victorians

Eleven-year old Ernest lives in the Somerset village of Oakley, in 1886. With Ernest as guide you look around his house and go to school; visit the paper mill where his father works, learn how paper is made and what it is used for; hear about the family who own the mill and most of the village. Also see an archaeological dig – and perhaps even explore a cavern (Wookey Hole). *Logotron (01223 425558) Price: £27*

Landmarks Microworlds: The Victorian Era

Travel back in time to examine lifestyles of the past. Explore an animated virtual world from above, lift off the roof and look inside and ask questions of the people living there. Set in Marchford, Yorkshire between 1780 and 1880 you see the process of industrial and social change from a once rural village to a town devoted to the mill. *Logotron (01223 425558) Price: £27*



Time Detectives – Victorians

Transported back to Victorian times, children have to work out the wages in a factory, organise staff in a large house, go to school, and identify objects. *Sherston Software (01666 840433) Price: £44.95*

Victorian Crime & Punishment

This revolves around a (*Pinpoint*) datafile of information on some 378 prisoners. It includes scanned images of their mugshots, from a County Gaol Habitual Criminals register of 1869 to 1878. There is also a 175 page multimedia binder of historical background information, plus teachers' notes and photocopiable worksheets. Requires *Pinpoint 2* or *Junior PinPoint*. *Logotron (01223 425558) Price: £41*

Watch: 90 Years with Magic Grandad

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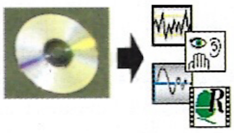

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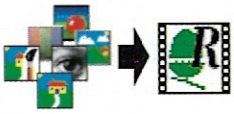

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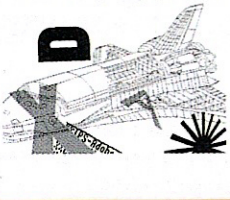

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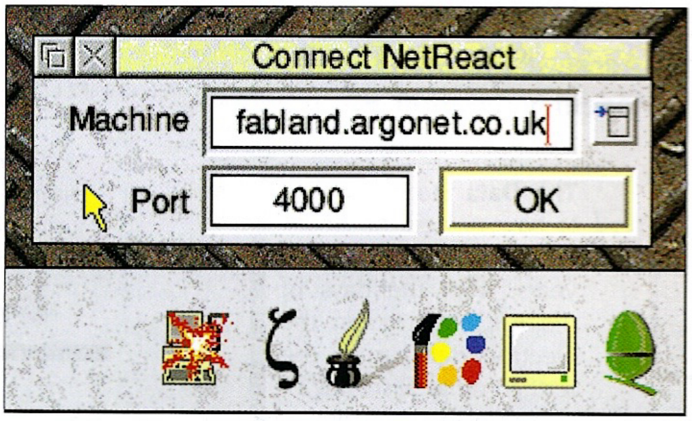

Connect NetReact

Machine: fabland.argonet.co.uk

Port: 4000

The game *Reaction* seems to become the *info equivalent of Sugar Puffs – just when you think you've forgotten about it, it comes back on you. We published the original, 8-bit(!) version of *Atoms* way back in September 1991 and since then we've seen 32-bit, hi-res, desktop, non-desktop, automatic, computer players, 256-colour, and goodness knows how many other versions. To top these off, we now had **Robert Hampton**'s network version.

NetReact makes use of Justin Fletcher's *NetGame* library (originally in the January 1998 issue). If you do not have a copy to hand, then it is also available from his website at http://gerph.home.ml.org/

To play, connect to the Internet and run the game. Clicking on the *NetReact* iconbar icon will open a connect window. Enter the name and port for a machine to connect to, or select one from the pop-up menu. If connection is successful, the board will be displayed on screen.

You can send messages using the 'Message' button on the main window. All the other buttons should be reasonably self-explanatory, but if not, Acorn's *!Help* application is fully supported.

Players take turns to place counters on the board. You cannot place a counter on a square occupied by a counter of a different colour. If a square gets too many counters on it, it will become unstable and explode, sending its counters onto neighbouring squares, turning any counters on those squares to the exploded square's colour. To win, you must turn all counters to your colour.

Pee-poo-pee-pee-pah-pah-pee

Author: Justin Fletcher

I'm not sure which bright spark came up with the idea of tone-dial phones, but no doubt when the archaeologists of the future reflect on our extinct civilisation they may conclude that the pee-pah-poos we all know and love formed the basis of a simple ten-tone music system. But I digress. Whether you wish to dial your favourite number from the comfort of your computer, or whether you wish to compose some minimalist masterpiece (à la Philip Glass), this utility from **Justin Fletcher** will suit you down to the ground.

ToneDial is a utility which simply takes a phone number as parameter and dials it. For example:

```
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```

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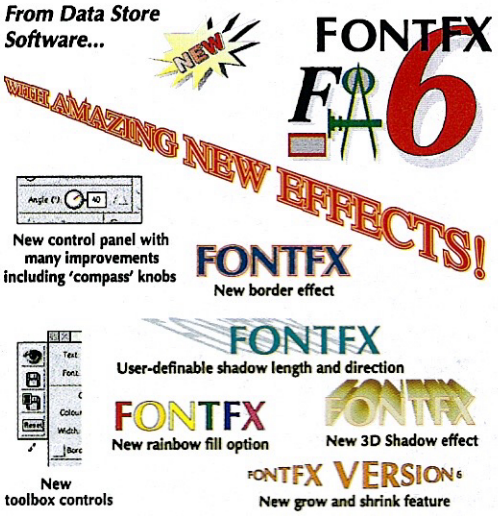
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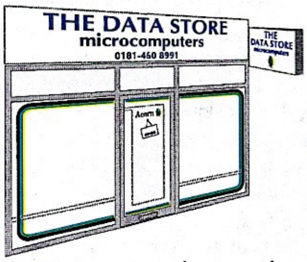
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French curves

Author: Alain Brobecker

Gary Larson once said he could have got away with calling it *The Cow Side* and he would have easily had enough material for life. I'm sure we could have called this *Fractal and retired quite happy. Follow us, then, for another excursion into that chaotic world... All four of these programs have been written by **Alain Brobecker** of Challex in France (hence the title of this piece).

First, *DevilCurve.* The Devil's curve function is based on Cantor's set. It is a continuous line and according to Alain *"is nowhere differenciable."* We're not quite sure what Alain means by this, but he does apologise for his English writing. It is generated recursively for any two given points. Instead of just joining the two points together with a straight line from x_1,y_1 to x_2,y_2 . Three line segments are drawn:

from x_1, y_1 to $(2x_1 + x_2)/3, (y_1 + 2y_2)/3$
to $(x_1 + 2x_2)/3, (2y_1 + y_2)/3$
to x_2, y_2

The three sub-lines are, of course, actually drawn via a recursive call. As always, after a certain depth, the recursion is 'nipped off' and only a single line is drawn.

DevilCurve draws a diagonal line across the screen at various 'depths', each coloured differently (from red to white), pressing SPACE after each will draw the next.

Julia_iim

This uses an inverse iteration method (hence the iim) to draw the classical Julia set. Instead of computing z(n+1) in the expression z(n+1) = z(n) + c, the opposite calculation is performed, i.e. assuming z(n+1) is known, the two roots z(n) are computed

PainEpice

This fractal is known as The Gingerbread Man (the program name is taken from the French equivalent). Though the equations used are very simple, the result is chaotic and the looks strangely like a gingerbread man.

VonKoch

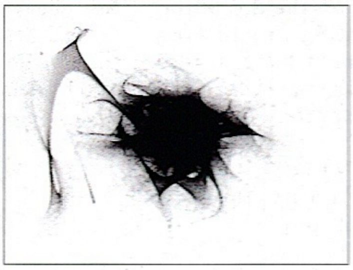
We've seen the good old VonKoch snowflake many times in *info, This particular version is plotted using a grammar system – the simplest snowflake is drawn using the rule:

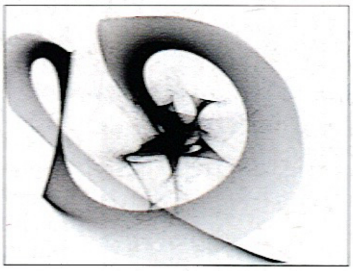
– r r – l – r r – l – r r – l – r r – l – r r – l – r r
where – moves forward, drawing a line,
r turns right $^{\mathrm{PI}}/_3$ and l turns left $^{\mathrm{PI}}/_3$ (radians),

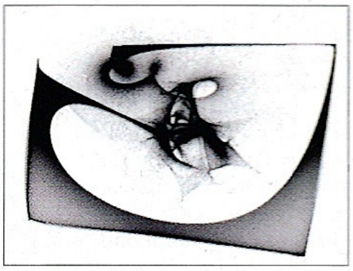
When following this set of rules, any "–" can be replaced by "l – r r – l –" obviously scaling the line segments as necessary. Alain's program draws five (nested) iterations of the snowflake starting with the simple set of rules above. The second flake has each "–" replaced. As Alain says, the trickiest bit was calculating the start position of each iteration!

Point-to-point

Author: Scott Boham







Scott Boham has souped-up a past submission – *Points* is one of those "loads of dots sort of following each other" type demos, and works very well.

By default, you have mouse control – the pattern is randomised to start off with (hence the fractal-like squiggle in the centre of the screen) but thereafter new points are taken from the mouse position. There are five variables that can be changed and the values of each are conveniently set at the start:

m% the mode number, by default 31 but any 16-colour mode will do. The program is intelligent insofar that it works out how many pixels there are across and down the screen.

mouse% by default TRUE, but you can disable the mouse by changing to FALSE.

p% the number of points – 200 by default, but Risc PCs and StrongARMs will be able to cope with many thousands.

spd% the speed – 6 by default. Each point move dist/(2^spd%) closer each frame

frames% the number of frames that are drawn before the screen is cleared and a fresh pattern begun. On faster machines you will want to increase the value from the default of 10000 (or increase the number of points). On my Risc PC (without StrongARM) it seems to be able to plot about 20000 points per second. You can use the middle mouse button to clear and restart manually.

The program works in a very simple way. Each point is stored in a table as an X and Y co-ordinate (shifted up) and just follows the next point. However, since the next point is itself following the one after, the spirograph-like pattern emerges. The pleasant charcoal effect is achieved by using a 16-shade grey scale and plotting each point so that it increments the darkness of the pixel (up to 15, which is black).

It's Gamma time

Author: Justin Fletcher

If, like **Justin Fletcher**, you grow weary of Risc PC users showing off about all the things they can do, you may enjoy his latest utility. It allows gamma correction on pre-Risc PC machines.

If you don't know what gamma correction is, or haven't missed the ability to do it thus far, you haven't really been missing much quite frankly. All that it involves is a lookup table that allows all colours displayed to be adjusted by user-defined values. So, in practice, this means you can brighten (or dim) the whole display, or make subtle adjustments to the R, G and B if you are desperate to get your on-screen colours spot on. This is important for a few users (those involved with artwork or printing – where what you see on screen has to match what you see on paper) but isn't too vital when you're playing *Lemmings.*

On a Risc PC this is all done in hardware. On other machines, the work involved is "dead easy" says Justin. (Well, it might be for a seasoned ARM code programmer like him.)

"Trap the Palette Vector to ensure we know about those fun gamma correction table setting requests (number 9), then on to all the funny old ColourTrans routines which require 'palette entries' (RGB values to you and me) we stick a simple lookup in its place. Fun eh?

"Actually, two bits of the code aren't that easy – Select/GenerateTable and SelectGCOLTable – here you have to find out the number of colours actually in the mode or sprite in question; this is made more fun by 256 being used to mean that r0 is not a sprite pointer, but that r1 is a pointer to a sprite.

"Other than that it's all dead simple. I wrote a 'reverse conversion' routine to do the opposite of the colour lookups. Unfortunately, it's not used. Nor tested. It's there though."

Justin has included a short little program (*QikGamma*) to set your gamma values – remember to install the *Gamma310* module first (if you haven't got a Risc PC!) Enter the corrections for R, G and B. A value of 1 means normal; <1 means darker and >1 lighter – change with care!

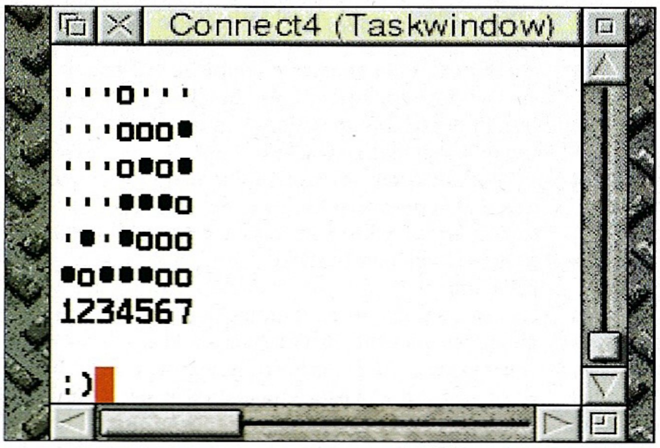
Well connected

Author: Dennis Ranke

We've had quite a collection of things from **Dennis Ranke** in the last few months, his most recent donation to these pages is a version of the classic game *Connect4*. The cunning part is that it is entirely hand coded in ARM and fits in 512 bytes. If you can't understand "**è ä100**, then Dennis has conveniently supplied commented source code for you to peruse.

When started, you are prompted to enter a level number between 1 and 9. Level 1 is search depth 4, player begins, level 2 the computer begins. Level 5 is search depth 5, player begins and so on up to 9 which is search depth 8. The higher the level, the longer it takes for the computer to play, on a StrongARM, it took 10s to play the first move on level 9.

During play, select your column by pressing a number between 1 and 7. Press Escape to exit the game. Winning or losing is indicated with a 'smiley' – if the computer wins it will be happy, if you win, it's sad. : (.



```
'''O'''
'''OOO●
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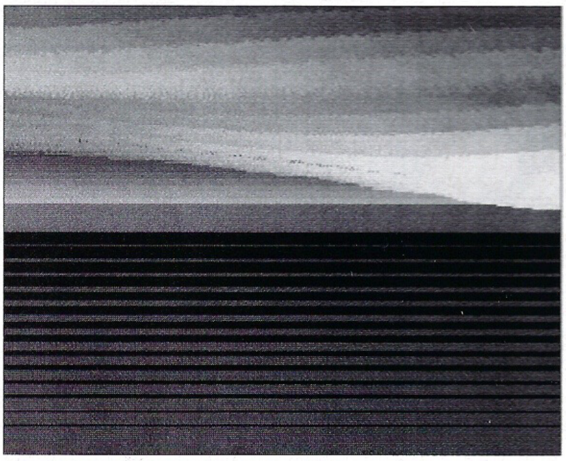
1234567

:)
```

Cloud-hailer

Author: Nigel Stoner



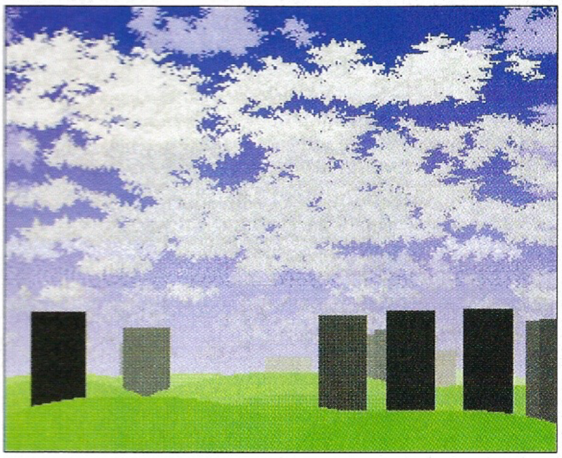
The late arrivals for the Cloud challenge continue... **Nigel Stoner** has supplied two more entries into our indefinitely extended competition.

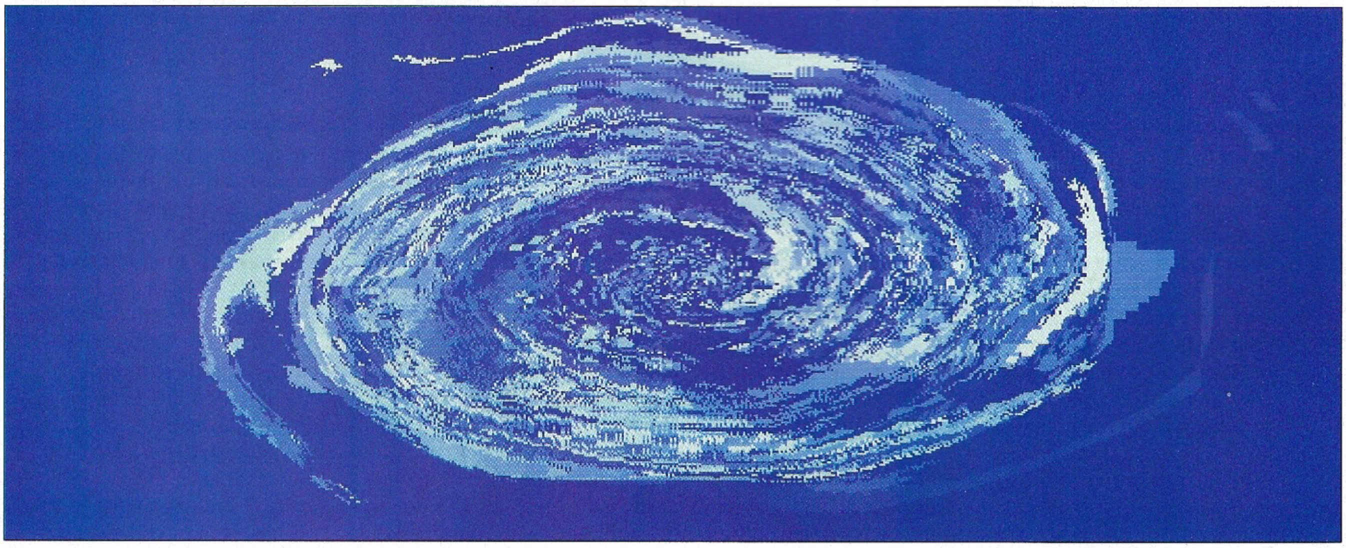
Clouds is almost a one-liner and all Nigel uses is a handful of SINs, COSs, circles and rectangle copies to produce an incredibly convincing vista of clouds racing across the sky. Sitting here, writing this in early April, I only have to look out of my window to see exactly this sort of scene. Apart from the horizontally striped and that is.

VClouds2 is harder to describe, but try to imagine Teletubby land with no Po and no Noo-Noo and after some hideous Alien Transmutating gamma ray has gene spliced the bunnies into Eastern European monolithic tower blocks.

Nigel says *'There's something about drawing clouds on a comp that is hard. An artist told me all that clouds are on a canvas is a box? Could it be that simple?' (sic)*

Nigel has also sent in *Twister*, which is simulation of a hurricane as seen from directly below (or above).





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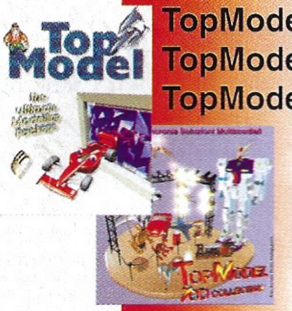

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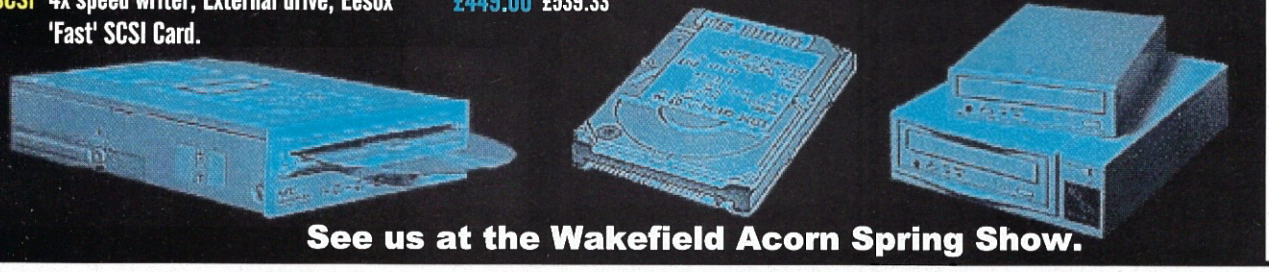

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2pm - Chris Cox reports....
3pm - Future of Acorn graphics

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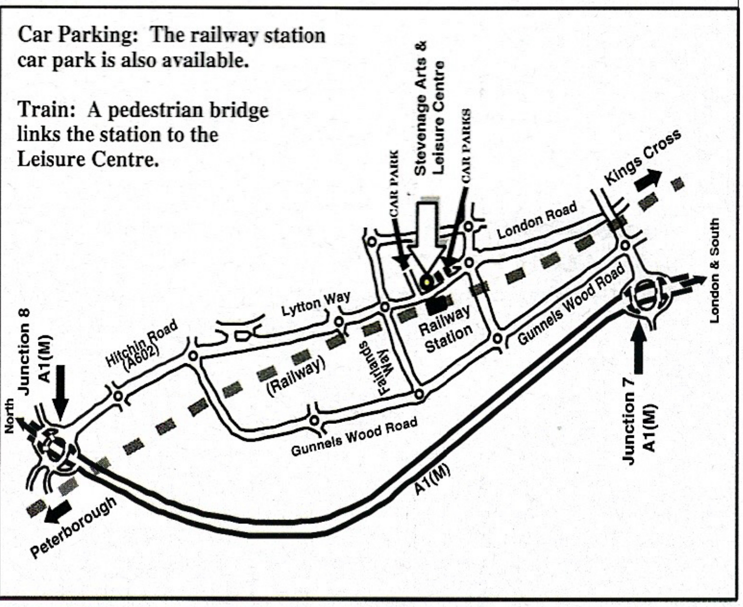
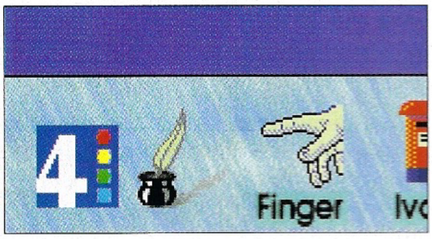


Car Parking: The railway station car park is also available.

Train: A pedestrian bridge links the station to the Leisure Centre.

The smog on the screen's all mine all mine

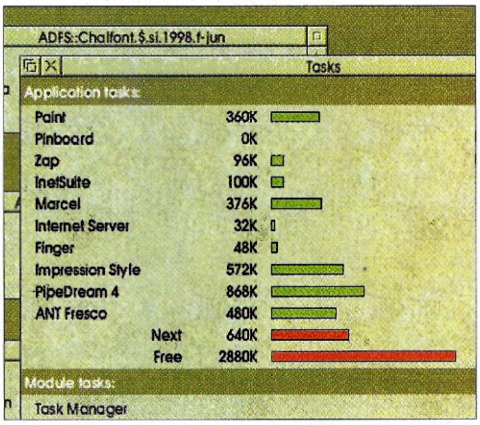
Author: Ryan Li



...and indeed, can be yours too, courtesy of **Ryan Li**. He admits to being a little jealous of Windoze users' ability to choose desktop colour schemes at the click of a mouse button.

In retaliation, Ryan has developed an array of six subtly different desktop looks – *Blue, Deep Sea, Desert, Ocean, Smog* and *Violet*. Each scheme features its own palette and window background tile. They work on all RISC OS machines, although you will obviously need 3.5 or more for the window backgrounds to be displayed.

Just double-click on the scheme of your choice. Or copy the appropriate directory into *!Boot.Choices.Boot.Tasks* to install on boot-up. Ryan has only included 256 colour mode background tiles (for space) so if you normally use a 32000 (or more) colour mode you will need to load the *WindowTile* sprite file and copy *tile_1-8* as *tile_1-16*, resaving afterwards.



```
ADFS::Chalfont.$.si.1998.f-jun
Tasks
Application tasks:
Paint                360K
Pinboard               0K
Zap                   96K
InetSuite            100K
Marcel               376K
Internet Server       32K
Finger                48K
Impression Style     572K
PipeDream 4          868K
ANT Fresco           480K
              Next   640K
              Free  2880K
Module tasks:
Task Manager
```

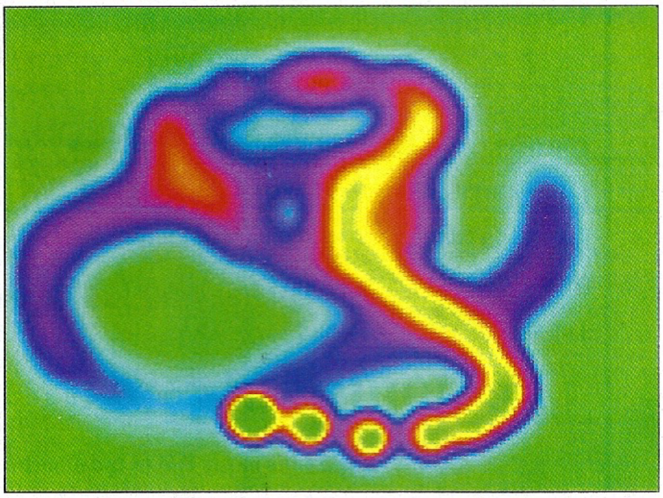
Syrup and listen

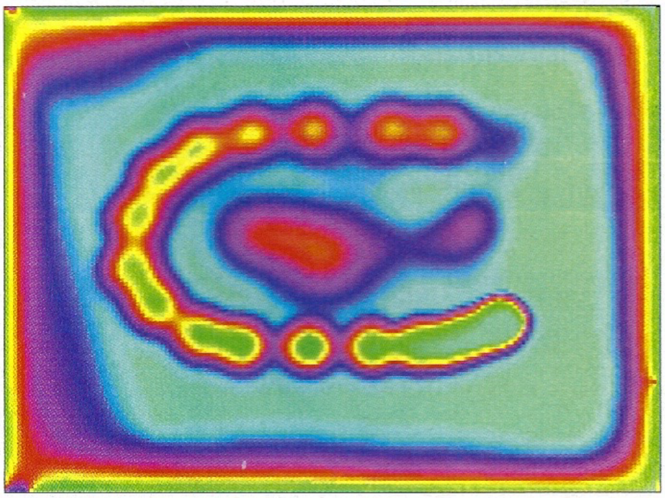
Author: Philip Mellor

...or rather watch this pleasingly plasmic demo from **Philip Mellor**. Now, you may say, what is so special about a plasma demo? We've all seen them come and go over the years. Well, the big difference with *Syrup* is that it's written in C. This proves that speedy graphic ditties no longer have to be written in ARM code. And it also means that more readers will be able to look at the source code and work out what on earth is going on! (Well, a few more anyway.) Philip completed the program (and it's baby brother *SyrupSmall* – with a smaller plasma area for a faster frame rate) in just 24 hours after acquiring Easy C++. So we wait with bated breath to see what he can do given a month or two.

The plasma effect is produced in the usual way – by averaging values from adjacent pixels. In fact, next-door-but-one neighbours are used for a better effect. There are a couple of awful/cute bodges within the code, which have been amusingly commented. One involves plotting a circle on the screen and then reading bytes directly from the screen memory as a quick and nasty way of getting values for dithering.

You have mouse control – a circle is simply plotted at the current pointer position and this has a knock-on effect on the surrounding plasma. The size of the circle (and hence, the effect you have on the screen) depends on the buttons you hold down.





Sandman

Author: Stefa Kaznowska

The man behind the sand in this case appears to go by the name of **Birky the Great**. We have reason to believe that the writer of this desktop nicety may also be known as **Stefa Kaznowska** however. This may also just be an anagram of something very rude though.

The sand we mentioned is the fine sort that trickles delicately and decoratively through the narrow neck of an hourglass. Yes, alright, this is just another one of those animated hourglass modules. But it's a nice one, so worth giving a try. Honest.

"Windoze '95 may be abominable" says Mr Great, "but it has a nice spinning hourglass (about the only good thing). I have managed to reproduce it using Jon Ribbens' *!Hourmake* (many thanks to him).

"The designs are best used on hi-res monitors or in hi-res modes because of their aspect ratios. They do work with lower resolutions, but they look a bit stretched. There are two types which can be used:

SpinGlass: The default is the larger, 'as-is-on-the-PC' version of the spinning hourglass: it is highly detailed and has a longer animation cycle, but has no % indicator on it which can prove annoying to some users.

SpinSmall: This one can be loaded up as standard by editing the *!Run* file (just change the *SpinGlass* to *SpinSmall* in the only line of *!Run* if desired). It is a smaller version of the above but with less detailed movements and a shorter animation cycle. However, it can display percentages on a bar directly below.

Bot whan bugins my datty

...OR the next *info challenge! The rather strange title of this piece sums up the nature of what we'd like you to produce. We're after nonsense - balderdash, cobblers, gibberish, hooey, twaddle, twattle *and* waffle!

You must have heard the old adage 'Garbage In Garbage Out' or GIGO for short, well we'd like to see *examples* of this, or, for that matter, NIGO or SIGO (Nothing In and Sanity In)! Oh, I seem to have got all carried away trying to explain this, but then again, maybe that's just the, er, whatsit, um, yes, point. To be brief then, your brief (ha ha :) is to write a program that spews out textual nonsense.

It is perfectly allowable to have to feed text *into* the program to produce this nonsense, but this is by no means essential. A non-input program might contain a table of syllables or word parts that it joins together randomly, at the simplest possible level just printing out random alternating consonants and vowels produce some quite interesting results.

Given some source text, you could juggle the words around; swap letters in words; analyse sentence structure; build up statistical tables of adjacent letters.

'Readable' output is of course, desirable. It must at least sound convincing. Don't think you have to be restricted to nonsensical English either...

Snowmen conceal undoubted ill

We are allowing the use of external dictionaries on the condition that they are generally available, the obvious one is Computer Concepts' *Impression* Spell module which is freely available on the Internet as part of the *Impression Junior* package. This is usually downloadable from their website: http://www.cconcepts.co.uk. It was also on the second *Acorn User* CD-ROM as:

```
CDFS::ACORN_U2.$.DEMOS.CCONCEPTS.JUN
IOR.!JUNIOR.RMSTORE.!SPELLMOD
```

The rules

1. Programs should not be longer than 20K.
2. The winner shall be the program that produces the best results – completely the opinion of the editors of this column.
3. Extra 'sway' may or may not be given if the program has a suitably silly name and/or background as to the nature of its output.
4. Four sample source texts can be found in the cover disc – this month's *info, The Pied Piper of Hamelin, The Mad Hatter Tea Party from Alice in Wonderland and the first chapter of Tom Sawyer. Of course, you can base your program on any text, but we will not try out your program on any *specific* text.
5. The closing date of the competition is 21 June 1998. The winning entry and runners up will be published in the September 1998 issue
6. Entries to the usual address (below). Please mark your entry with a small sample of the output of your program. This will help us sift out our post bag and give the postman a good laugh.

Dog not spaceship

To give you a bit of a start, Four examples are included on the cover disc.

1. *Incant* produces mystical incantations – it simply alternates random vowels and consonants in words of random length: *ocahu es evumaso palu nom om ovedo*

Careful you don't say this three times after midnight!

2. *Headline* is not really up to much as it stands – it simply picks random words from the *Impression* Spell dictionary, but it does give an example of how to access the modules' SWIs. (A further program *ImpSpell*, is a demo we published in December 1993 with further SWI examples.) Even so, it does come up with some good ones: *Fabian whistle embarrassment*

A Christopher Morris-ism if ever there was one!

3. *LooseVowel* needs to be given a source file and all it does is random exchange vowels. It's this that gave rise to *Bot whan bugins my datty* based on the *Pied Piper* text.
4. Finally, *Gook*. This is the most complex example here. It makes use of *Impression* Spell's Fuzzy and Typo facility normally used for detecting spelling mistakes but here, given a source file, it replaces words with fuzzy or typo matches for them. It runs from the command line:

```
*Gook [-typo] [-fuzzy] [-anagram] <file>
```

If no '–' option is given both fuzzy and typo options are used. Be warned – this is very slow even on a Strong ARM!

'Cave sole wipe,' the Marquis Hire sated in an encroaching tom. (From *The Mad Hatter*).

*QUIT

Send all your utilities, graphical ditties, top tips, music (and whatever else you like really) to our usual address please:

*INFO, *Acorn User*,
IDG Media, Media House, Adlington Park,
Macclesfield SK10 4NP
or, e-mail us (including your real address please) at:
austarinfo@idg.co.uk

No submission should exceed 100K. Extras like screenshots and diagrams are always welcome, but try to keep e-mail submissions under 100K please. We always have limited cover disc space, so will not be able to carry vast applications however nice they are.

You needn't include a letter but please put your name, address and program title on every disc and include a text file containing your name, address, disc contents and program details. An SAE will ensure your discs are returned. As always, only *info submissions please.

Compatibility table

Program	ROS 2	ROS 3.1	ROS 3.5+
Vclouds2	No	Yes	Yes
Twister	Yes	Yes	Yes
Clouds	No	Yes	Yes
Connect 4	Yes	Yes	Yes
Gook	Yes	Yes	Yes
Headline	Yes	Yes	Yes
Imp Spell	Yes	Yes	Yes
Incant	Yes	Yes	Yes
Loose Vowel	Yes	Yes	Yes
Syrup	No	Yes	Yes
Syrupsmall	No	Yes	Yes
!Blue	Yes	Yes	Yes
!Deep Sea	Yes	Yes	Yes
!Desert	Yes	Yes	Yes
!Ocean	Yes	Yes	Yes
!Smog	Yes	Yes	Yes
!Violet	Yes	Yes	Yes
!Spinglass	Yes	Yes	Yes
!NetReact*	No	Yes	Yes
Gamma 310	No	Yes	–
QikGamma	No	Yes	–
Tone Dial	Yes	Yes	Yes
Devil Curve	Yes	Yes	Yes
Julia iim	Yes	Yes	Yes
Rain Epice	Yes	Yes	Yes
Von Koch**	Yes	Yes	Yes
Points	No	Yes	Yes

* Needs NetGames
** Needs 2Mb

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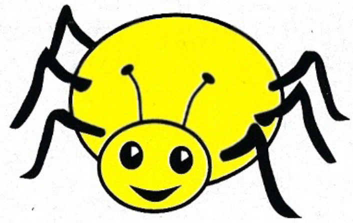

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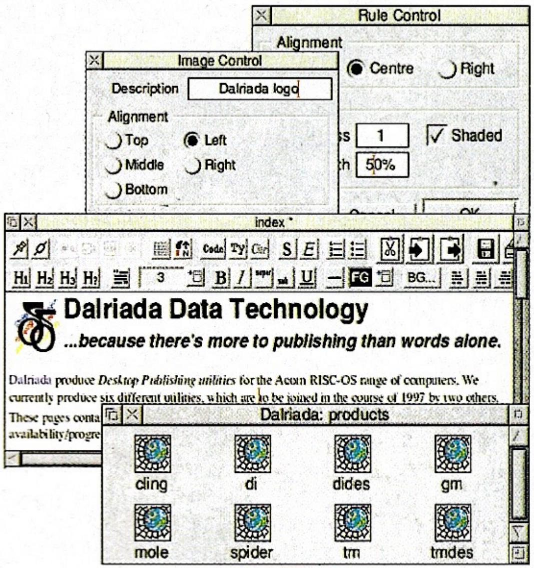

Dalriada Data Technology

...because there's more to publishing than words alone.

Dalriada produce *Desktop Publishing utilities* for the Acorn RISC-OS range of computers. We currently produce six different utilities, which are to be joined in the course of 1997 by two others.

These pages conta

availability/progre

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The invisible data link

part 2

Mike Cook explains the software to support his organiser

Last month we saw how to communicate with the Oregon Scientific AM-399C organiser, sold by Boots for under £30. By using an infrared link we can pass data between organiser and computer. At 600 baud it's not the speediest communications link in the world, but it's quite adequate considering the amount of data that has to be transferred.

While the programs to communicate with it last month were quite crude, they covered most of the essential information in order to make your own desktop application. However, as I wanted to use this organiser, I thought I would have a stab at writing a desktop application of my own. So here it is.

There are some general points here that apply not only to this application, but to any major programming project you undertake.

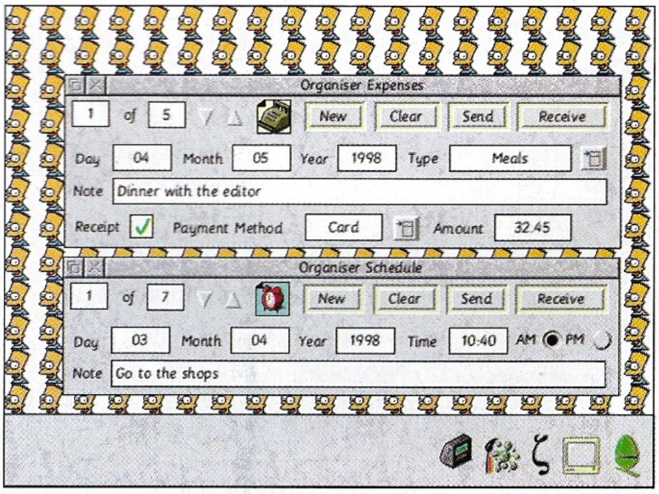
It took some writing, not because of the technical nature of communicating with the organiser, but because of the sheer bulk of code. In all, there is just over one and a half thousand lines of code. And while there is no doubt that it could be squashed to a smaller size, these days (with memory the price it is) there is no point.

Essentially, for each data type the organiser has to offer, there is a separate window allowing you to input and edit the data. This data can be saved to disc and reloaded later or exported in the form of a text file to be incorporated in your own word-processor documents.

The data can then be sent to the organiser or gathered from it and stored. The organiser's record categories are **Telephone**, **Schedule**, **Expenses** and **To do/Memo**. The last window doubles for use with the **To Do** and **Memo** records as there is no difference in the format at all. Each data type has its own file type number taken from the unallocated pool of numbers. I have used type numbers &5A to &5D so there is a faint chance they might clash with some software, but none of mine.

A couple of general points first before we delve into the detail of the application. When writing any program, the biggest trick is knowing when to stop. You can keep adding features and tricks until it is so complex that it's difficult for a beginner to learn how to use it. This sort of sophistication often creeps up on the programmer who is unaware of the complications being built into the masterpiece.

Next, a great deal of effort can go into anticipating and catching errors that can occur from user mistakes. Again, knowing when to stop is an asset, as you can easy double your programming effort to make it only one per cent more robust. With that out of the way, let's get on with it. The



Organiser Expenses

1 of 5

Day 04 Month 05 Year 1998 Type Meals

Note Dinner with the editor

Receipt ☑ Payment Method Card Amount 32.45

Organiser Schedule

1 of 7

Day 03 Month 04 Year 1998 Time 10:40 AM ● PM ○

Note Go to the shops

The Expenses and Schedule windows

application is on the cover disc and is called, surprise surprise, *Organiser*. Clicking on the iconbar brings up not a window but a menu, no matter which button you use. While this is not to the letter of the Style Guide, other applications use this method and it is much less confusing to the user than opening up four windows all at once.

From the menu you can choose what type of data record you want to work on and the appropriate window will be opened. Alternatively you can just drag a data icon onto the bar and the data is loaded and the appropriate window opened. All windows work in a similar, quite natural way. Data is entered in a number of writable icons selectable by mouse clicks. In addition, if you press Return the input focus will move to the next data field in the record. If, however, you are in the last data field of a record and you press return you will be moved onto the next record.

If you are looking at the last record a new record is created and the cursor moved to the first field of that record. Alternately, pressing the NEW button at the top of the window will create a new blank record. To delete any record just press the CLEAR button and it will be removed, providing it is not the last remaining record, as there must always be at least one record. The number of records in each data field is limited to 100 which should suffice for most people, but could be increased by altering a single line at the start of the program and giving it a bit more memory to play with.

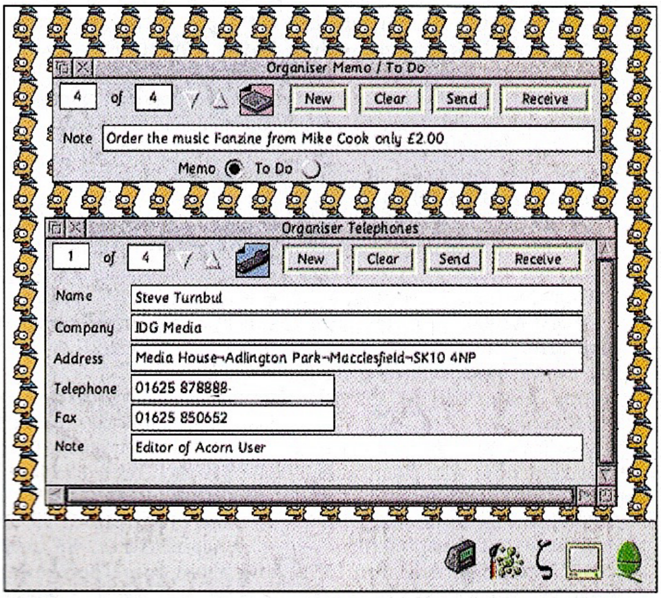
The data fields are not long enough to show the maximum length of data permitted and, just like the field on a save box, will scroll when you have the cursor inside it. However, you can't exceed the organiser's maximum length for a field which, in most cases, is 96 characters or 48 for telephone numbers. The organiser has a 14 character line length, anything longer than that will wrap round onto the next line. However, you can insert a character that will force the display onto the next line of the display. The one I chose to represent this is the key, that is located just under the escape¬ key on a Risc PC keyboard.

This brings me onto another point – character translation. First of all, the organiser only displays capital letters. You can see from the screen dumps that the application will accept lower-case letters as well. When you send these to the organiser they will be converted to capital letters. Also, while the organiser uses the ASCII code for letters and numbers, the symbols are definitely non-ASCII.

Therefore there needs to be some translation when sending and receiving data – the table (right) shows the translations used. Note: The organiser only has a few symbols compared with the ASCII set, most of which are input via a cycling symbols key. Incidentally, I can't get the organiser to input the ÷ symbol from its keypad although it will display it, if you send it the right code. Some of these symbols can't be input from the Acorn keyboard but you can get them by using the *!Chars* utility.

The expenses window has two categories that can't be typed in, only selected. They are 'payment method' and 'expense type'. The appropriate type can be selected by a menu icon next to the field. However, the organiser allows the expenses category to be redefined and so does my application. Inside *Organiser* is a text file called ExpCat which contains eight words that will be used for the eight expense categories. If you edit these on the organiser you can also edit them in this file using *!Edit*. However, the four payment types can't be changed.

In both the Expenses window and the Schedule window there is space for the date. No attempt has been made to prevent a user from typing in an impossible date, although the organiser might baulk at it. The same goes for the time section in the Schedule window. The proper format is to have two digits for the hour and two for the minutes, separated by a colon. However, if you miss out a leading zero, the application will put it in for you. You can also enter the time in either 24 hour format or 12 hour format. In the 12 hour format, notice will be taken of the AM/PM buttons and the time converted to 24 hour format. If entering the time in 24 hour format the AM/PM buttons will be set automatically.



4 of 4

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Memo ● To Do ○

1 of 4

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Note: Editor of Acorn User

The Memo/To do and Telephone windows

Code	ASCIII	Orginiser	Translation
13		new line	AC
21	!	:	3A
22	"	'	27
23	#	,	2C
24	$	/	2F
25	%	¥	A5
26	&	£	A3
27	'	$	24
28	(	-	2D
29	)	.	2E
2A	*	+	2B
2B	+	+	2B
2C	,	+	2B
2D	-	+	2B
2E	.	+	2B
2F	/	+	2B
3A	:	+	2B
3B	;	?	3F
3C	<	_	5F
3D	=	#	23
3E	>	(	28
3F	?	)	29
40	@	÷	F7

Translation table

Transferring data between the computer and organiser is quite simple. Clicking the receive button will bring up a small window inviting you to click the mouse to cancel the transfer. When this is showing, you can push the appropriate buttons on the organiser as outlined in the instruction leaflet. To send data to the organiser, set it up first and then click the transmit button in the appropriate window.

Note that the organiser can send one record or the whole file, depending on whether you transfer the data while looking at an individual record or the section heading. The menu obtained by clicking on any of the applications windows will allow you to choose whether you send the whole file or just the record you are looking at. In addition you can select whether data received is treated as a new file or added to the existing file.

No doubt you can think of features I have not included, but I think I've done enough to integrate the organiser into the desktop environment.

There remains a small mystery with the organiser, all the data types when transferred over the infra red link have a type number attached to them from 0 to 5. However, I have not been able to find anything that transfers data type 4. If you do, please let me know.

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JACK KREINDLER

Steve Mumford takes a look at the DrawFile module in action

Towards the end of last month's column, I mentioned the *DrawFile* module that's supplied as part of the later versions of RISC OS – it provides a simple, one-step method of plotting *Draw* files to the screen. This time round, I'll show you how to make use of it in your own applications. If you're using the Acorn C/C++ compilers, all you need to do to enable *DrawFile* is add the line:

```
#include "drawfile.h"
```

to your code and link it with the appropriate **renderlib** library from the toolbox. The version available from Acorn's FTP site has been built with the OSLib package in mind, but that's available for download there too.

The quickest method of invoking the *DrawFile* module is to use the ***Render** command that it provides. At its simplest, the command takes a *Draw* file and displays it on screen, but extra control is provided for those who need it. It's worth experimenting to get a feel for how the command operates – the parameters that ***Render** accepts are almost identical to the ones taken by the **DrawFile_Render** SWI. In order to position a *Draw* file on screen, ***Render** makes use of the six values held in the transformation matrix discussed in last month's column, and it's a particularly quick method of trying different scaling factors to see how they operate without having to continually recompile chunks of C.

As well as a star command, *DrawFile* provides three SWI calls that cater for rendering *Draw* objects, calculating bounding boxes and declaring fonts used in such a file prior to printing. We'll be using these to provide support for clip art from within our application, as these SWIs let you plot files directly from memory – allowing us to store them in line and so make the final data format a bit neater. **DrawFile_Render** is the first we'll look at, and the code fragments shown below should give you an idea as to how to proceed.

The first step in plotting a *Draw* file is to load the data itself into memory, and this can be done by using **OS_File**. The best policy would be to check the file size before loading it in, so that memory could be allocated on the fly as it is required. However, for simplicity, I'm assuming we've set aside a suitably large area of memory already. We still need to determine the file size as **DrawFile_Render** needs to know how much data to expect; however, **OS_File** provides that information upon successfully loading a file, so we don't have to go out of our way to get the values we're looking for.

```
#define MAX_FILE_SIZE 51200
char *filename[] = "Test\0";
char *buffer;
_kernel_swi_regs regs;
_kernel_oserror *error;
buffer = calloc(MAX_FILE_SIZE,
sizeof(char));
regs.r[0] = 16;
regs.r[1] = (int) filename;
regs.r[2] = (int) buffer;
regs.r[3] = 0;
error = _kernel_swi(OS_File, &regs,
&regs);
filesize = regs.r[4];
```

The value of 16 in R0 tells **OS_File** to use the string pointed to by R1 as the full file name; the address at which to load the file is stored in R2, and R3 is set to zero. If all goes well, the data is loaded into memory and the length of the file is stored in R4. Once the *Draw* file is safely in RAM, it's just a matter of setting up the transformation matrix (held as a 3 by 2 integer array) with the values to represent scale factor and location on screen before calling the SWI:

```
int transform[3][2];
int flags = 0;
transform[0][0] = 1 << 16;
transform[0][1] = 0;
transform[1][0] = 0;
transform[1][1] = 1 << 16;
transform[2][0] = x * 256;
transform[2][1] = y * 256;
drawfile_render(flags, (void *)
buffer, filesize, &transform, 0, 0);
```

The **flags** parameter allows you to modify the way draw objects are plotted; in normal use this will be set to zero, but if bits 0, 1 and 2 are set, **DrawFile** will either plot bounding boxes round the objects, suppress plotting of the objects themselves or allow you to change the default 'flatness' of the draw paths in conjunction with the sixth parameter.

Following that, the location of the *Draw* file in memory is supplied as a void pointer, along with the file size stored as an integer, and the address of the six-word transformation block. That's enough to get a *Draw* object to appear on screen, but the fifth parameter can be used to apply clipping to the objects before they're drawn, particularly useful when plotting to windows in the standard WIMP redrawing loop. In this case, the fifth parameter should point to a **BBox** structure that holds four integers storing the minimum and maximum *x* and *y* values for the area to be displayed in OS units. Any objects that lie within this region, either partially or completely, are drawn on screen.

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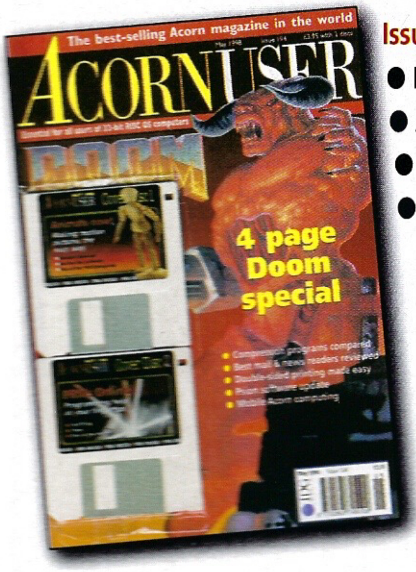

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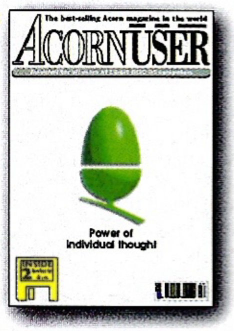

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Rambles through
Acorn Wood

Another question and answer session with **Mike Cook**

I was reading in a magazine about how it was unfair that the rest of the world ignored the best user interface and how it was almost impossible to buy software. Were they talking about an Acorn? No. They were on about a Mac. Some people just don't know when they are well off.

Our Acorns are under threat at the University so a solid band of us are trying to put together a strong case for keeping them. One strand of this is to try and identify any other islands of sense in a mad PC world, so if you work in an institution of HE and use Acorn machines could you drop me an e-mail.

First off some help from readers about previous problems, Andrew Harmsworth from Warwick School who describes himself as a Physics and IT teacher and webmaster has some great news for those looking for a cheap way to get a large display from the computer:

I was interested to read your response about the VIDC20 and coercing a Risc PC to give a TV signal. When Warwick School replaced an A3000 with a Risc PC in the Physics Dept., we lost the ability to connect it to a TV.

A quick phone call (OK, not *that* quick, and several e-mails) to Xemplar gave us the solution. Yes you can connect to a TV set – and it's *really* easy. No MDF is necessary. Take a look at my Web page at http://www.argonet.co.uk/users/hARMsy/RPC.html

I'm sure that many teachers will find this of interest and, indeed, much use (we regularly connect our StrongARM RPC to TV sets in our labs to do demos, etc.).

Great! I took a look at the page and thought readers might be interested in the following extracts:

To use a Risc PC permanently with a TV set, you would be better off configuring it properly. That is:

```
*configure monitortype 0
```

and you should set-up a proper Monitor Definition File in your !Boot.

However, it is unlikely that anyone would want a permanent connection from computer to TV, as the television is incapable of displaying the high resolutions that we are all used to. The kit that is required to do the job is a simple SCART connector from the video out, which can also take the stereo audio if required. It is available from Xemplar Education, code AGA50 @ £12.99, excluding VAT, with £1 carriage charge.

To set up the kit:

1. Make sure your machine has *configure monitortype auto
2. Plug in the TV and Risc PC, but do not power-up yet
3. Connect the Video Output and Audio (if required)
4. Connect the lead to the TV SCART input
5. Power-up the TV, and switch to TV/AV mode
6. Now power-up the Risc PC, but hold down Shift while it boots

This will start your machine without running the Boot. The desktop will instantly appear (especially on a StrongARM!), and you will be able to access all software that runs in the desktop. Software that requires a separate screen bank may not run, as the resolution required may exceed that which the television is capable of displaying. For the adventurous, apply 9V across pin eight and earth on the SCART socket. It will automatically force the TV into AV mode!

On to this month's batch of concerns. Michael Bailey is a budding techno musician in a band called Paradox, but he is having problems with Acorn's sound offering. He writes:

I need some hardware advice, I'm in a band and our music is in the style of Prodigy, Chemical Brothers, Orbital etc. We use an A3010 linked to our mixers and program the music using *Tracker*. We would like to have each of *Tracker's* eight channels come out on a separate line so that we could mix them individually, apply processing to individual channels and dynamically define the stereo field. I need this sort of thing because I can't afford a swanky new MIDI setup.

Unfortunately it's impossible. You see the problem here is that the eight audio channels do not exist inside your machine – they are only a software illusion. There is one D/A (digital to analogue converter) and the eight channels share it in small time slices. What comes out is then integrated together to form the sound.

What you want could be done in two ways but neither is much of a goer. First of all you could have eight separate D/As – one for each channel. As these D/As are not standard linear ones but a specially tailored m255 Law they would be tricky to make. Also you would need a FIFO buffer on the end of each one, and finally the system software that drives the sound would need completely rewriting – not the most practical of propositions.

The second way would be to catch the samples as they come out of the D/A on separate sample-and-hold circuits. However, this would be tricky for two reasons. First of all there is practically a 16-bit dynamic range of signals, while not impossible for a 'sample & hold' circuit, it would be difficult and might be susceptible to interference generated by the rest of the computer.

However, what really spoils the idea is that there is no signal coming out of the computer that tells you what channel's signal is being output at any instant. You can't make one because the output of sound is under the control of counters in the VIDC chip and you can't get at it.

Chris Ward contacted me by e-mail to say:

I am an AOL subscriber but I am sending this via a PC. Is there any software which will enable me to access AOL from RISC OS?

As far as I know the answer is no, as AOL (America On Line) is a computer service provider in the old school with only a gateway onto the Internet. This requires specialist software to navigate and I don't think any has been written, anyone know any different?

It seems that my article on temperature measurement has caused a few people to sit up and take notice. However this often tempts people to stray into new areas, and what might be obvious to a hardened interfacer is not to a newcomer. One such person is Nick Foster, but I know there are others so I have devoted a lot of space to his questions, he writes:

In a recent issue of *Acorn User* I read your column on a temperature sensor that could be linked in with the RPC. After reading it, I suddenly thought this was what I was looking for to keep records of the temperature in my incubator for parrot and quail eggs. I could use it to record the temperature and to alert me if the temperature rose too much.

However, after reading the article, I was left a little confused – the hardest thing I have ever done on my computer is upgrade to a StrongARM processor. Would you tell me what an I^2C bus is? I looked through my *Acorn User* back issues and couldn't find a project that showed me how to use one. So I looked on the *Acorn User* website and found your RTR series – the issue I needed was December 1995. I looked in my back issues and there it was, the instructions on how to make one. Is this the correct issue? Looking at the circuit diagrams, I think it should not be to difficult to make up a PCB and find all the components, if they are still made. My electronics teacher told me I could use the college for making the PCB.

It's good to know that my articles have inspired you. However, the December '95 article told you how to make an I^2C interface board with digital and analogue input/output. You don't need this with the temperature sensor monitor, all you need is to connect it up to the I^2C bus pins found on the podule connector. These are: 1a – 0V, 32a – 5V, 19c clock and 20c data. The 'a' row of pins is the one closest to the edge of the board and the 'c' row furthest from the edge.

I have brought these signals out to a socket on the back of my computer but you could just as easily use flying leads. If all your podule sockets are occupied then you can still get at the signals by soldering wires on the back of one of the existing cards.

Incidentally, if you are after an alarm, the chip I used has one. The unused pin on my circuit can be made to change if the temperature strays outside preset limits, however you do need to program this up. Your best bet is to get hold of the data sheet and see what it needs. Nick had some follow up questions and here they are:

How do you know with the temperature software which temperature sensor is which radio button in the software? You say it automatically sets itself up, but how do the addresses of the temperature chips help in the setting up? Do they arrange themselves in some sort of order i.e. 1,2,3,4... 1 goes with radio button 1 and so on?

Yes, when you set up the address lines on the sensor chip, that sets what radio button it responds to – the reason why they are labelled 0 to 7 and not 1 to 8. If you look at the address lines on the chip in a binary fashion and treat connection to 5 volts as a one and connection to earth as a zero, then that number is the address. So, for example, for an address of 6 you need A2 and A1 connected to 5 volts with A0 connected to ground. This is because 6 = 110 in binary.

If I had all eight temperature chips working would they all go through the same I^2C bus or would I need separate ones for each chip? When a chip sends data does it also send its code so that the computer knows which temperature display to update?

➤

Rambles through

Acorn Wood

The idea of a bus is that all components are connected to the same wires. This means that you can connect all the clock lines together and connect them to pin 19c on the podule connector, the same goes for the other three wires. The computer asks for data from a specific chip, so when the data arrives it knows where it came from.

Would the software run on an A3000 and does an A3000 have an I^{2}C bus and where is it? I ask this because I expect my college is going to sell these computers soon and I could get one to do the temperature logging.

All current Acorn ARM computers have the I^{2}C bus fitted as it is used internally to talk to the real time clock and parameter RAM.

The last thing is could the chip be made to be more accurate i.e. 0.1°C instead of 0.5°C, as 0.5°C is a little inaccurate for incubator monitoring.

Funny you should mention that last point because in the same batch of e-mails I received this from Dr Simon Melhuish who works for the University of Manchester at Jodrell Bank observatory.

I am currently working on some software using the DS1624 chip which has 1/32 degree resolution and I've had great fun with them. I just encased some in potting compound for David Watkins (ex. AW editor) to monitor his hydroponic tank temperatures. You can keep code compatibility (they all have the same pin out) by using the DS1621.

With some extra software trickery these can give 0.1 degree resolution. But the neatest new device is the DS75. This can work in various modes. The default is totally LM75 compatible (as you'd expect from the name), but after a couple of I^{2}C accesses, you can have it doing 12-bit (or fewer => faster). The 1624 is my favourite, but it doesn't have a thermostat o/p pin.

Thanks for your original I^{2}C article, which put me on to this useful bus in the first place. I've done a fair few things with it since, including communications with PIC14000 microcontrollers. I^{2}C almost ended up in our Very Small Array microwave background telescope, but in the end we went for Interbus-S.

Simon is looking to get his work published as an article in the Acorn press so I will keep you informed when it appears. In the meantime it looks like it might be worth returning to this topic in a future article.

Aad Bezemer from the Netherlands has been having a bit of trouble with my serial interface board from the February and March '97 issue:
I have your serial I/O board and software and have found it works fine on my Risc PC, however when my son uses it on his A310 he gets no response at all. Could this be due to the cable or the serial drivers as they were a bit suspect on the early machines?

I investigated this and dragged out my old A310 from its hibernation and found Aad was right – my serial software did not work. I found out that this was because the operating system call I used to initialise the serial chip does not work properly on the older hardware. Fortunately the solution is simple. Close to the start of both applications there is a line that reads:

```
SYS'Serial_Op',0,&96,&FF00
```

This should be changed to:

```
SYS'Serial_Op',0,&34,&FF00
```

and all will be well.

Giles Turnbull (no relation) has a quick question:
I own a RISC 700, and will be in possession of a 6.3Gb IDE hard drive soon. The hard drive is a UDMA model. Will the UDMA specification cause untold damage to my IDE interface?

This is just a more tightly controlled version of the IDE interface 'standard' that's also a bit faster. This should work fine on your existing interface, although it will not take advantage of the extra speed it is capable of.

Stan Collier is using my PIC blower and writes:
I have recently used your program from *Acorn User* September 1997 to program a 16C84 with just six instructions, using my A5000. It took about 80 seconds to program the 16C84. This seems a very long time for such a short program. I mentioned this on the picacorn mail list and was told there was an update to the blower program which was faster.

The length of the program is almost irrelevant to the length of time it takes to program, as the software must access each location of the PIC chip to see if it contains the correct value. It is this accessing that is eating the time on slower computers like yours. There was a slightly faster version on the cover of the January issue this year, however you can modify the version you have yourself. All you need to do is to call the SYS calls by number and not string. Just replace the SYS'Parallel_Op' calls with SYS&42EC1.

Next, a cautionary tale about printers from Richard Grant:
I refer to your note in the March 1998 issue of *Acorn User* regarding the HP 890C printer. I have had a nasty experience with the HP 720C, a similar unit. I purchased one recently with a view to using it from my RPC. I had assumed, rather naively, that it would be possible to do this on the basis that the printer was claimed to be usable via a DOS box in Windows and would thus be able to take commands from DOS.

Oh, how wrong I was! It turns out that the printer is Windows-only and comes with a comprehensive set of Windows drivers for installation with 3. or 95 only. It simply does not work with any Acorn or Computer Concepts driver because it uses a new superset of PCL5, called, if I remember correctly, PCA. At the time of enquiry, Computer Concepts told me that they are considering updating their Turbodrivers "sometime this year". I'll believe that when I see it. So I've ended up with a printer that I cannot use. Perhaps some timely warning words in your column might prevent others from making the same mistake.

Trevor Haynes is finding his printer sluggish, he writes:
I've just bought a '400 for use on my A5000. Printing is very slow especially for *Eureka* and *Impression* with colours. I have *!Printers* 1.53, 500Mb HD, 8Mb RAM. I used to use a BJ10 with Turbodriver. Can you recommend any faster driver or another course of action?

Colour printers can take a long time, but I am not sure how slow your setup is going. If the printer is making passes of the paper continuously then it can't go any faster. If, however, it is taking long pauses between sweeps then there are measures you can take to minimise the waiting.

First, connect the printer up through the parallel port, as a serial link is much slower here. Also make sure that you have plenty of memory allocated for the Font cache. Turning background printing off can also speed up the process, although you can't use your machine for anything else while it is printing out. Finally, make sure you are printing at an appropriate resolution – the very highest resolutions can take a long time.

Finally, a batch of enquiries looking for answers – When printing an *EasiWriter* document, somehow the first line on the left-hand side of the page is not printed. This leaves me (well, actually the printed characters...) serif-less on one side, and although it makes no real difference at all when it comes to legibility, it is quite disturbing and ugly.

No such thing occurs when I try to print other things, it's just when printing *EasiWriter* docs. I tried adjusting the margins but it had no effect. Also, as far as I can remember, I only experienced this strange phenomenon after installing *!Printers* 1.53. I have a A4000, with a LJ 4l connected to it, and use the *EasiWriter* version that was supplied with the *Home Office* deal in, I think, 1993

Can any reader help with this one? Next, Richard Austin is after making something quite ambitious:
I'm after a timecode reader chip so I can build an interface to my Risc PC. Just to explain a little bit, timecode is the SMPTE audio data-stream recorded in pro video recordings on a separate track – it's Manchester 2 format. While it is possible to construct one to read real time using a simple CPU (I have done so already) it's difficult to get it to work when spooling, as the data-stream speed alters and becomes too quick for a simple CPU to cope with. I know that a manufacturer does make them, at a price of about £30, but for the life of me I can't remember who. I've had a search of the Web to no avail. Any ideas where I may be able to source them, or maybe a chip finder Web page?

And finally from Tank Stage lighting:
Does anyone know where to get hold of the codes to drive a PAT – a Portable Appliance Tool Tester, a device used to check electrical safety. It can send a high current voltage down the earth connection of a piece of equipment, and measure the resistance encountered. If the value of this resistance is outside some preset limits, the unit fails its test and becomes (in the eyes of the Health & Safety Executive) an unsafe item and cannot be used.

Other features are load checking, reverse polarity and flash testing. This type of testing is now required by law on all electrical items used in the workplace or public access areas. Some PAT testers are standalone units and just display the results, others communicate with a computer and are either completely controlled by the computer or just dump the results to the computer. Obviously this data is ideal for storage on a computer as the whole test history of the items tested can be recalled very quickly. These applications exist for the PC but I can't find any information to help me write my own software. Can anyone help?

AU

Contacting me

You can contact me, Mike Cook, by post at the usual *Acorn User* address or by e-mail at:
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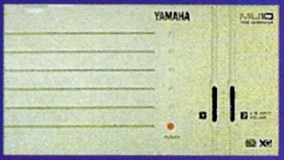

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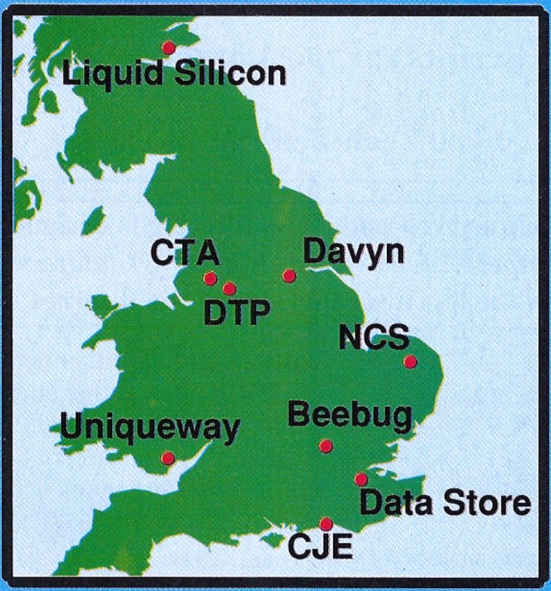

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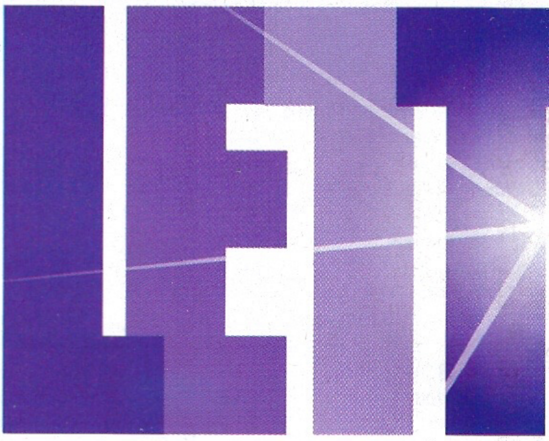

Acorn and the Millennium Bug?

There seems to be a big problem, and a lot of speculation as to what is happening over the 'Millennium' bug at the moment. Only the other day, I was watching *Newsround*, which included a story about the bug.

They showed pictures of several computers (PCs) and then, to my astonishment, an Acorn A5000/A4000 came up on the screen – what could the reactions be from people (if they can tell the difference between a PC and an Acorn)? Not so long-ago, I heard that Tony Blair was being shown an Acorn (A300/A400 series or something) and was pretty impressed, 'Better than a PC' is the phrase I think may have entered his mind.

Russ Webster (Age 13)
rusweb@argonet.co.uk

Apparently the Newsround team did send an apology to someone who complained by e-mail, however that's about all we can expect. It's doubtful that anyone except an Acorn owner would have noticed, which is probably more fortunate than not.

Who's an Acorn fan?

RiscPC700
Acorn

There are many people who claim to be fans of Acorn. There are the ones who save their pennies and buy the new machines as they come out, or upgrade slowly buying second-hand machines and so on.

Then there are the dedicated owners with the A3000 or the A310 who haven't bought a piece of Acorn kit in 10 years – but if you ask them, oh yes, they're Acorn fans.

Personally I think they're about as much fans of Acorn as someone who supports Manchester United and lives in Timbuktu. How can they claim to support Acorn when what Acorn needs is people to buy the machines?

They whine on about not having enough money – what a load of rubbish. Does that mean that in 10 years they couldn't scrape together enough to buy one second-hand machine that's better than the one they own? They could have done that on £5 per month. It doesn't have to be a new machine, because if they buy second-hand the seller will be able to go on to buy their next machine – they could always check that the seller was till going to buy Acorn before buying.

These are the same people that worry whether Acorn will exist in five years – well, if everyone behaved like them, no Acorn wouldn't exist. Luckily for Acorn some of us are willing to put our money where our mouth is. So next time someone says they're a big fan of Acorn check out what machine they've got and how long they've had it.

Grahame Peterson
Woolwich

ERS

Where is BASIC64?

I had hopes that your article *Wide range of resources*, in the latest *Acorn User* magazine, might solve a long-standing problem with my Risc PC. Even before I got StrongARMed, all I got when typing BASIC64 in a task window was "File 'basic64' not found", which is what I still get.

After reading your article, I checked that the BASIC64 file is in the 370.Modules sub-directory, which it is. It is also in the 350.Modules sub-directory. I also checked System$Path, which is the same as the one in your article (p34), except for the filing system name, of course, So, why can't the system find BASIC64?

Peter Howard
Grange-over-Sands, Cumbria

*The problem is a matter of location and function, when you type *BASIC64 it isn't the* System:Modules *that are searched, but the list of directories in the* ***Run$Path*** *variable which, quite correctly, does not include the various module directories.*

The ***Run$Path*** *variable contains several locations on the disc: the default directory, the current directory and the main library directory – other applications may add further directories to the end. But BASIC64 isn't in any of those as it's a module not a utility.*

There's a quick'n'dirty solution or a proper solution. The first is to move the module straight into the PreDesktop *directory, this will work fine and will ensure it's loaded whenever you start up.*

However this method won't work properly if special versions of BASIC64 are needed for different OSes and hardware configurations. Instead you should create an Obey file which simply contains:

```
RMLoad System:Modules.BASIC64
```

Which will ensure the correct version is loaded for your machine.

Going postal?

Due to a postal strike, my copy of the April edition of *Acorn User* did not arrive until 8 April. Imagine my surprise when I realised the advert on the back cover featured a photo of the woman expecting my baby!

I hope 'Phoebe' won't be a late delivery.

David Evershed
dave@dice.demon.co.uk

Acorn have already stated that although a machine will only be on view at the Wakefield Show and they will be accepting money in advance – they would be fools not to – the machine will not be available for some time afterwards. One hopes we will not treated to another delivery debacle.

Error correction

Many thanks for mentioning our programs in the literacy supplement in the recent issue of *Acorn User* it was a pleasant surprise.

Unfortunately the phone number quoted is a very old one which will take you to the University switchboard – they will be able to pass on callers to us, but the switchboard operators are often over stretched and may take a while to answer. Our direct line is: 01248-382616

I went through Steve's website yesterday – looks like he had a fine adventure in Egypt, hope the legs are OK!

Dave Lane
Xavier Software

Sorry about the mistake, the legs are recovering, thanks.

Air your views

If there's something you want to 'get off your chest' or you have some interesting information for your fellow *Acorn User* readers, then write in to:

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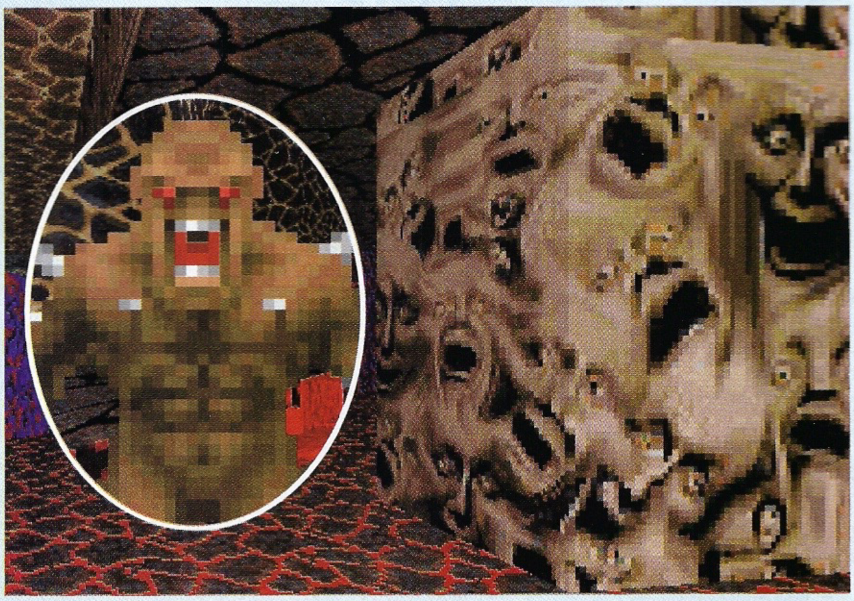

Doomed

You managed to run a four page special on *Doom* in the May issue but didn't mention Andreas Dehmel's *DIY Doom*, a free port of the *Doom* player to the Acorn platform which patches the *LinuxDoom* sources still available freely over the Internet.

I realise that *DIY Doom* is relatively difficult to set up. However, in its favour, *DIY Doom* does now support network games, which, as far as I know, RCI's version does not at present.

You should have supported the Acorn free software community by at least mentioning *DIY Doom*, and letting readers make up their own minds about which *Doom* player is best.

Mark Seaborn
mseaborn@argonet.co.uk

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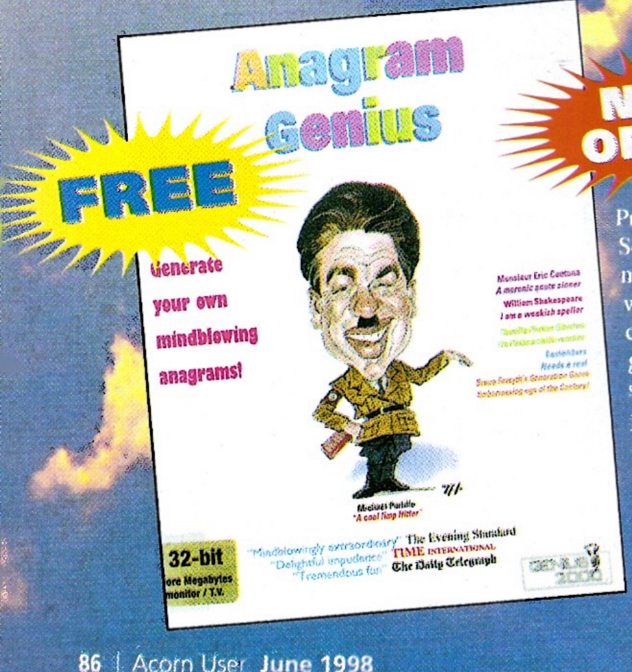
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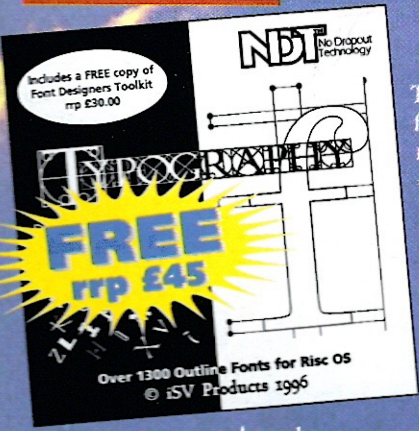
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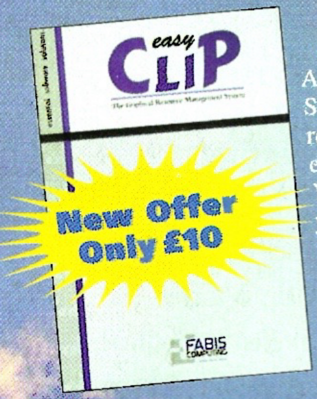

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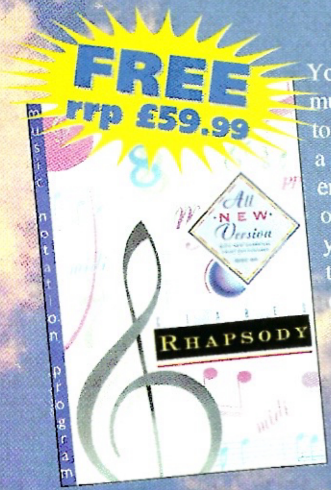

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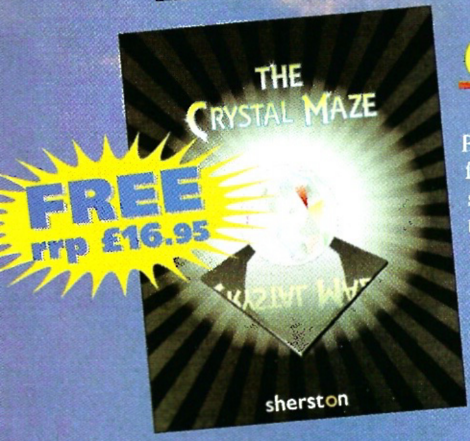

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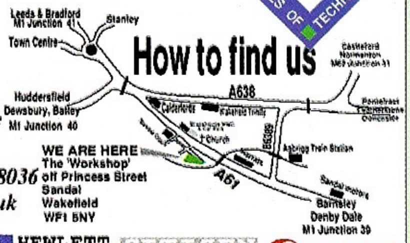
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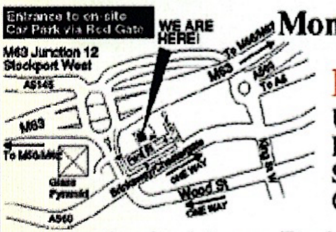
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the Regan files

Robin Watts and Paul Gardiner

I am walking past some cottages in Woodstock and Paul Gardiner is trying to convince me that some of the walls have small hand prints in their bricks, the prints of the children who had to work taking bricks out of the moulds. I jokingly ask if he can write an algorithm for them. After all, Paul is the one I am led to believe does the 'scary maths' at Warm Silence Software. He also has a fluffy grey bunny rabbit that I initially mistook for a cat and is an Escher fan.

Robin Watts explains: 'Paul has one of those minds; he can write algorithms for things you did not even realise that you even needed algorithms for.' Paul and Robin are equal partners in Warm Silence Software, with Robin himself being known for tweaking a good bit of ARM code.

Acorn has always been associated with Cambridge, but there was also an Acorn enclave at Oxford. The Oxford University Archimedes Club spawned many notable people within the Acorn market. Robin was a member, as were Dominic Symes, *Zap* author and ex-*Acorn User* editor Mark Moxon.

'When *Acorn User* moved from Redwood Publishing to Europress,' Robin explains, 'and Mark became editor, it turned out to be crisis time. Nothing had been planned for the next issue so Mark came to Oxford to the group and said: "Right – *you* are going to do *this* and and *you* are going to do *that*. It ended up being a bumper programming issue, because that's what we could write about.'

Paul and Robin met through a mutual friend, when Paul had a 'character building' job with a company linked to Oxford University and Robin was doing a PhD in computers, turning software into hardware. It started as a spare time thing, until 1996.

Paul starts the story: 'When we first met I had written *PlayAVI* and Robin *Larger...*' and Robin interjects: '...When I first met Paul he was sitting on an A4 hacking the binary of PlayAVI in *Zap* so he could actually get it run on the A4.'

Paul continues: 'We teamed up to make *PlayAVI* faster and it turned in to *MovieFS*. We do contract work, so if anyone wants their programs to run faster they should call us. The most exciting contract work we are doing at the moment is for Acorn and it takes up most of our time. We are doing a video phone but we have a problem.

> 'We were contacted by someone doing some work for the Hong Kong pilot's association'

'Bi-directional pictures are no problem, but bi-directional sound is a problem down a 28.8k modem. We need a better audio compression – another six months work and we should have done it. At the moment we are waiting for the international standards for video phones to arrive from Switzerland.'

'What we are doing which is different to everyone else is basing it around *Replay*. Everything that we have been doing uses *Replay* as the main display engine. So we already have that technology there on the Acorn, and by building our stuff around it we get the advantages of the *Replay* stuff for free'.

'It has been a pleasure to work with Sophie Wilson. Sophie is the author of *Replay* and has had constant input and overseeing. There are a lot of nice people at Acorn. You can actually talk to the people who are directly responsible; we have good contacts. Acorn is a good development-driven company.'

Robin shudders, possibly at the thought of the nine to five lifestyle at a company like Acorn. If Warm Silence continue to get 'interesting' contracts, he should be able to avoid that in the near future.

'Quite randomly', enthuses Robin, 'we were contacted by someone doing some work for the Hong Kong pilot's association. They are dredging part of their harbour and they wanted to do a simulation of moving ships around this newly dredged harbour with an extended quay. The model they were using was like a 15 year old BASIC program someone had written on a Beeb years and years ago. They wanted this hooked up across a network to something running Netscape and Java and VRML and all this stuff, and they were using an Acorn machine in the same network.'

Finally, I can't let the interview end without asking where Warm Silence Software got their name. 'When you start one of Enigma's albums it has this lovely kind of low frequency hum in the background and that is what I call a warm silence.'

Jill Regan AU

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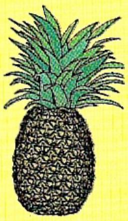

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Please ask if you wish to alter or upgrade this specification still further

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2.5Gb Harddrive	£ 75.00
4.3Gb Harddrive	£ 99.00

Other sizes available - please ask

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2 slot backplane	£ 34.00
2nd Slice (inc 4 slot backplane)	£ 89.00

RiscPC Memory

1Mb VRam	£ 69.00
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8Mb SIMM	£ 14.00
16Mb SIMM	£ 24.00
32Mb SIMM	£ 49.00

Other sizes available - please ask

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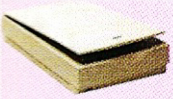

Flatbed Colour Scanners

There are now a growing number of scanners which will work on RiscOS. The Epson GT5000 and the Plustek work on the parallel port so no extra interface is required.

All our scanner prices include Twain and Imagemaster software. SCSI scanner prices do not include the SCSI connecting cable. Studio24Pro instead of Imagemaster - just £30.00 extra!

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Epson GT5500 SCSI	£299.00
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NEW!!Plustek Optic Pro (par)	£149.00

The Plustek has a 'through' printer connection so no switchbox is reqd.

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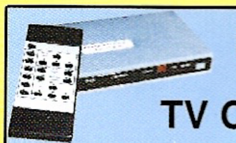
Users note FREE update v2.16 is now available.



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